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Racing towards the millennium:

Psygnosis powers up **Wipeout 2097**

From derided 16bit pioneers to acclaimed creators of intelligent interactive entertainment, Liverpool powerhouse Psygnosis has emerged as one of the UK's leading softcos. Edge reveals the latest titles (including *Wipeout 2*) and interrogates the designers riding the next generation wave

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Technology: a catalyst for ideas or a barrier to amibition?



The nineties have arguably seen a decline in the originality of most UK software development. In the mid eighties, a wealth of home computing formats provided the foundations for imaginative and often risky development. Concepts that, however badly presented visually, still represented new strains of videogaming - titles that didn't fit cosily into existing genres or sub-genres. In recent years, however, the UK software trade's creative freedom has suffered at the hands of its own increasing dependence upon Japanese console development. Just as Sega and Nintendo's 16bit machines stifled creativity (how many western developers unsuccessfully tried to conceive their own Marios and Sonics?) the development of 32bit games is already showing signs of turning into a process of formulation rather than innovation.

Part of this problem is technical. As console developers strive to build beautiful 3D worlds in just two megabytes of memory, many are adhering too strongly to coin-op-style blueprints. And now that publishers are eyeing a global marketplace, game design is suffering as concepts are moulded to appease the lowest common denominator of consumer taste.

Consequently, many developers are now seizing the PC market with great vigour so that creative ambition can flourish, unfettered by the strategies of console manufacturers. This month's look at Psygnosis shows how the company that led the UK charge on Sony's superconsole is also embracing the PC in an attempt to recapture some of the ingenuity that made UK videogames development amongst the most respected in the world.

The Future is almost here...

inside **EDGE**

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insideview







Murder Death Kill (above). System3D arcade graphics system (top right). E-Online (above right)









QuickDraw 3D RAVE (top). *Crash Bandicoot* (above)

Toy Story (top). *Panzer Dragoon Zwei* (above)







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REGULARS

FEATURES

Cutting Edge

*The latest **news** from the world of interactive entertainment*

ECTS 96

ECTS losing vital spring in its step?

Europe's largest trade event is shunned by key players and reveals few exclusives





Once again Sony commanded a huge presence at the Spring ECTS. One game was, however, a little too big for even Olympia to contain (right)





ECTS TV (above left), which televised interviews with industry pundits, proved a crowd draw, as did Gem's tacky fashion show (above right)

Politely termed, 'a bit disappointing' by one industry pundit, this year's Spring ECTS, which took place between May 13 and 15 at London's Olympia exhibition centre, may well be the last. Although some interesting products were on show, the closure will not come as a great surprise to many attendees.

In terms of attracting quality exhibitors, the event no doubt suffered due to its proximity to E³ - a very likely key factor in software companies' decision to shut up shop and concentrate on the Autumn event. Many developers were obviously saving their newest stuff for America, with several top names staying away entirely. Others chose to shun the main exhibition building and →





Nichimen Graphics had a rather small and scruffy stall where its showed a beat 'em up demo running across the PS, Saturn and N64

Sega turns to Sony

A company partially owned by Sega will begin to produce games for the PlayStation this year. Segasoft, in which Sega of America – makers of the Saturn – owns a 40% equity, has stated, 'it's not really that strange… we have other partners and an independent board.'

The big Sega titles will not be converted, however, so don't expect *VF2* to turn up on Sony's machine.

→ instead took up small suites at the Hilton hotel next door.

Of the exhibitors, Sony had the largest presence (surprise, surprise) with a 'stand' taking up one whole wall of Olympia's gallery section. Despite the size, there was little of interest and very few unkown games on display, most space being taken up by the entire PlayStation software back catalogue, all of which was available to play. *Tekken 2* was easily the biggest crowd draw with *Toshinden 2* coming in a not particularly close second. Also present as previews were *Motor Toon GP2* - the surreal cartoon graphics and impossibly contorted curcuits provided a slightly more inspiring demo than the other games on display - *Myst, Adidas Power Sports Soccer, Jumping Flash 2* and a couple of US sports sims - *NFL Game Drive* and *NHL Face Off*.

As for betas, Neon's potentially excellent *Tunnel B1* was on show, unfortunately let down by a very limited demo. The *Micro Machines*-inspired *Super Sonic Racers*, designed by Mindscape, looked reasonably promising, as did Fun Soft's *Burning Road*, with large cars and an arcade-style look clearly influenced by *Daytona* and *Rad Mobile*.





The entrance to GT's stall oozed subtlety (top). *Quake* was the biggest title on show

Namco's section of the Sony stand was, excluding *Tekken 2*, particularly disappointing. *Ridge Racer Revolution* was forced to share space with a decidedly dodgy-looking *Galaxian³* (the onrails 3D shoot 'em up) and an equally unpromising tennis sim, *Super Smash Tennis*.

The *Museum Piece* titles were also presented, but only on video - which was probably a good thing - playable demos of *Gaplus* or *Galaga* would no doubt have been swamped by ageing managing directors harping on about 'classic gameplay'.

Sony's biggest title, *Crash Bandicoot* (see page 37), a polygon *Super Mario 64*-esque 3D platformer, was not put on general presentation, but was shown off behind closed doors. The product will be officially unveiled at E³.

GT Interactive turned Olympia's Henley suite into a dark and sweaty medieval dungeon where the highlight was a playable *Quake* demo (not particularly progressed from the demo released over the net last month) running on six networked PCs. Also on show were playable demos of Scavenger's underwater shoot 'em up, *Amok* (PC version), as featured in E28), first-person shoot 'em ups *Heretic* and *Hexen*, and isometric shoot 'em up, *Mayhem* (see page 38).

So as not to be known for just shoot 'em ups, GT was also displaying Random Games' *Vikings*, a strategy conquest title for the PC where players get to rape and pillage across ninth century Europe. Furthermore, *Ultimate Mortal Kombat 3* for the Saturn was present featuring new characters, new moves and new backgrounds, but with gameplay still as derivative as ever.

What is it?

This famous toy is starring in a new range of PC games including the promisingly-titled *Fashion Designer* and the thoroughly enticing *Makeover Magic*. Disappointingly, the products are being aimed at the girls' multimedia market







Tekken 2 (top) attracted hundreds of gamers. The Philips stand (above) was inspired chaos. *Motor Toon GP2* (right)

Microprose once again went for a *Star Trek TNG* theme with authentic starfleet officers wandering around promoting *Star Trek Generations* (PC, PlayStation). Based, of course, on the movie of the same name, *Generations* looks very similar to Microprose's last *Star Trek* title (a *Monkey Island*-style point-and-click game with flash graphics) with some *Doom*-esque first-person sections thrown in for good measure.

Continued next page

The interesting-looking and beautifully presented *Citizens* (a god game where the player must keep the inhabitants of a small town happy and content) was given much less prominence, as was the generally well-received racer, *Track Attack*. PlayStation versions of *Gunship*, *Transport Tycoon* and *Top Gun* were also presented as playable demos.

Time Warner demonstrated a fair range of future releases, including *MIA*, a Vietnam-based PC flight sim/shoot 'em up, and *Pitball*, a violent futuristic sports sim for the PlayStation. It will be interesting to see how *Pitball* (based on *Basketball*, but with punching and kicking) fairs against Sony's more traditional, but absolutely marvellous, *Total NBA*.

Importantly, the Bitmap Brothers' long, long, long awaited *Z* was on show in playable form. The much delayed *Command and Conquer*-style military strategy shoot 'em up still looks like it will be great fun... if it's ever released.

For most exhibitors, the Spring ECTS was more of a chance to show off recent top titles and demos of games that have been expected for ages, rather than exclusively reveal future releases. In fact, it was blatantly obvious that all industry eyes are on E³, a vast consumer show with a lot more global clout than a European trade-only event.

However, all the companies **Edge** spoke to promised great things for the Autumn ECTS, and this was probably not just hot air. September will provide a great chance to show off more advanced (or completely altered) versions of games premiered at E³. It is also a traditionally heavy period for developers.

It is...

Barbie, that famous inspiration for Pamela Anderson's plastic surgeon, allegedly. Mattel excitedly refers to the girl's multimedia market as 'untapped', although 'nonexistent' or 'financially suicidal' would probably be better terms



These first ingame shots from *MDK* are realtime visuals. The hi-res scenery scrolls smoothly and the targeting system (right) is neat



Also on show: (top row, left to right) Domark's *Crimewave*, *Terracide*, and *Deathtrap Dungeon*, (middle row) *Super Sonic Racers* by Super Sonic Software, Lobotomy Software's *Exhumed*, *Down in the Dumps* by Haiku, (bottom row) DMA Design's *Grand Theft Auto*, Fun Soft's *Burning Road* and, finally, *Gear Heads*, developed by R/GA

Shiny's *MDK* revealed

At ECTS, **Edge** was treated to an early demo of Shiny Entertainment's foray into the world of PC 3D, *Murder Death Kill* (screen shots above). Featuring a smooth SVGA environment (the polygon Bladerunner-style scenery has an almost pre-rendered quality), the game is essentially a 3D exploration-based shoot 'em up with an innovative weapon targeting system. Full control is offered over the main character – it's possible, for example, to leap onto parts of the scenery – while a *Virtua Cop*-style close-up display appears whenever an alien needs taking care of. Currently about 10% complete, this early demo proves that Shiny's cartoon-based heritage could be something it finds easy to break away from. See page 26 for an interview with Shiny president, Dave Perry.

Nintendo floats new **handheld** project

A new 32bit colour handheld prepares to continue the Game Boy's legacy

Nintendo's much-rumoured new handheld console is definitely a reality, and believed to be a 32bit machine powered by a RISC processor designed by the UK-based chip specialist, ARM (Advanced RISC Machines).

The outfit, based in Cambridge, is understood to be supplying the heart of a machine, codenamed Atlantis, offering a three by two inch screen and a battery life of up to 30 hours – far in excess of that so far achieved by any portable system.

An **Edge** source, who wished to remain nameless, claimed, 'the Lynx was a powerful machine but this new console is far beyond its specs. And you can't possibly make any comparisons with the Virtual Boy – this has a high-quality display and it's a *very* powerful piece of kit.'



The Game Boy is the most popular handheld thanks to a few killer games, notably *Tetris*

Since defining RISC architecture with its ARM chip for Acorn's Archimedes microcomputer seven years ago, the company has built a respectable portfolio of clients including NEC, Sharp and Goldstar. In terms of portability, ARM supplied the ARM610 chip which powered Apple's successful Newton PDA (Personal Digital Assistant), and, in console terms, designed the ARM60 which was used in the 3DO.

Nintendo is believed to have had designs for a colour portable machine in the works for some time, but has considered inadequate battery life to be a limiting factor (Sega's relatively successful Game Gear, by comparison, has a battery life of around two hours). Freed from such constraints, a true successor to the 50-million-selling Game Boy is a logical progression for the Japanese giant. Game Boy sales have levelled out in recent years, and, despite Nintendo's efforts to revive the format (by dropping its price and introducing novelty-value versions in coloured cases), it is no longer the viable medium it once was. The question remains, however: who will write software for its successor? Nintendo's in-house development capacity is certainly feeling the pressures of all-important N64 commitments and the cream of the world's independent 32bit developers would appear to have its hands full already.

ARM
Advanced RISC Machines



Nintendo will be looking to avoid the fate of Atari's Lynx which, despite its unrivalled power, suffered at the onslaught of the Game Boy and *Tetris*

One criticism levelled at the Game Boy is that it produced scant few killer-apps (*Tetris* and *Zelda* being notable examples) and proceeded to live on their reputations alone, suffering from a flood of substandard, ill-conceived games. And, certainly, it's easy to see why the format faltered when software companies insisted on producing conversions of other format's hit titles, when the hardware was so obviously not up to the task of reproducing them faithfully.

This new format appears to have the power to deliver fair approximations of many existing hit titles, but Nintendo will certainly be pushing for original product to appear on it. Early development systems are reputedly in the hands of developers already, and it will be interesting to note what type of software becomes available. A killer app is a necessity, so perhaps a new *Mario* title is already being prepared at NCL's Kyoto headquarters...

What is it?

In the 8bit era, before beat 'em ups demanded the multiple buttons of the joypad, the humble joystick reigned supreme. This notorious, rather cheap model was one of the first to feature an auto-fire option. It sold over 25 million units...



Square comes out fighting

Square Soft, the publisher best known for its series of hit role-playing games, has announced *Tobal No.1*, a PlayStation-only 3D beat 'em up featuring fighters designed by leading Japanese comic book artist, Akira Toriyama.

Poaching designers from Sega's *Virtua Fighter* team and Namco's *Tekken* and *Soul Edge* teams, Square has assembled an elite squad to help it break into an especially competitive market.

Though the game is graphically primitive when compared to the likes of *Tekken 2*, Square claims that it offers a true three-dimensional fighting experience: players can perform attacks from the sides and from behind as well as from directly facing an opponent.

The game is set for a July release in Japan, and is already at the top of many Nipponese gamers' most-wanted lists.

Voodoo puts hex on 3D graphics rivals

3Dfx interactive enters the 3D accelerator marketplace

It is...

The Quick Shot 2, which was shaped like a fighter plane joystick, but with handy suckers on the base for stability. Although it looked sturdy, a couple of *Hyper Sports* or *Decathlon* sessions would usually finish it off. Ah, those were the days...

Graphics company 3Dfx Interactive has revealed its stunning new 3D accelerator technology for the PC and coin-op market. The Voodoo graphics chipset, officially announced last November, is set to compete against VideoLogic's PowerVR technology and a horde of other companies in the highly overcrowded and growing 3D acceleration market.

Edge witnessed several Voodoo demos running at ECTS last month and came away thoroughly impressed. Besides the now obligatory 3D beat 'em up demo - this time featuring two ancient Egyptian fighters and some impressively smooth animation - the best evidence of the power of Voodoo's technology was shown by a realtime 3D roam through a temple. This fully immersive 640x480 engine, explored in a first-person view, was astoundingly crisp, smooth and beautifully detailed, running on a Pentium 90 at a constant 30fps.





3Dfx Interactive's Egyptian beat 'em up demo, shown off recently at ECTS, looks impressively smooth, even if the genre is rather derivative. The reflective chrome look of the fighters (left) is striking

Moving away from ancient Egypt, 3Dfx Interactive's third internal demo allowed the player to control a small remote control car around a toy-strewn nursery. Although rather limited, the demo was a good example of how small objects could be manipulated as polygons - the car careered around the fully-textured room at great velocity and was easily as impressive as anything shown last November running on the Nintendo64.

Thirdparties working with the technology had also had a chance to prepare brief demos using Voodoo. Looking Glass ported its *Flight Unlimited* engine (the first time **Edge** has seen the thing move at over 10fps!) and its luscious landscapes rolled seamlessly beneath the first-person camera.

Apogee had also taken time out to port the latest version of its 'Build' engine to generate an intricate, shadow-laden, multi-layered dungeon setting.

Incorporating all the usual 3D accelerator features such as perspective-correct texturing, Gouraud-shading, alpha blending and z-buffering, the Voodoo graphics chipset also includes special effects such as texture compositing, morphing and animation. The composition and morphing elements provide lifelike lighting and combine to eliminate what 3Dfx calls 'object popping' - where objects seem to pop up out of nowhere when they approach the camera. Voodoo can also animate textures by using video as a texture map or by modulating texture coordinates.

Along with the above, Voodoo offers per-pixel atmospheric effects (eg fog, smoke, haze) and LOD mipmapping, which relates each object's texture detail to its distance from the camera. Furthermore, 3Dfx is promising a 30fps frame rate as standard and claims, 'on perspective-correct texture-mapped, z-buffered, LOD mipmapped, fogged, alpha-blended, 50-pixel triangles, Voodoo graphics delivers more than a 45 megapixels [45 million]-per-second fill-rate and draws over 350,000 triangles per second on a P90.'

In terms of PC operating systems, Voodoo is compatible with *DOS*, *Windows 3.1* and *Windows 95*, and will also work with graphics APIs such as *QuickDraw 3D RAVE* (see page 30), *Direct 3D*, and *Direct Draw*. Consequently, games written for Power Mac, *Windows 95* and *Windows NT* formats will all be able to take advantage of 3Dfx's chipset. At the moment, Fujitsu Microelectronics and Orchid technology have signed up to manufacture boards employing 3Dfx's technology.

As for the vital element of software support, 3Dfx is working with developers such as VIE, EA, Interplay, Acclaim, Sierra and Domark, as well as over 50 other companies to produce PC games compatible →

Pong man strikes back

Godfather of the games industry and creator of *Pong*, Nolan Bushnell, has hit out at the state of modern videogames, claiming most new titles are too violent and aimed solely at teenage boys.

Via his new company, Aristo, Bushnell plans to launch a series of arcade games, perhaps with a sporty feel, which will represent, God forbid, 'good clean family fun'.

The guru of gaming has also promised to bring the videogame back to America and end the domination of the industry by Japanese firms. Does xenophobia count as good clean family fun then, Nolan?





Voodoo offers a plethora of graphical effects, including a range of texture-mapping tricks and Gouraud shading. Edge saw this 640x480 *Quake*-style temple demo (main) running at 30fps. Mermaid (top right) and insect (above)

When was it?

In this year, Steve Jobs 'left' Apple, after his company failed to drag a decent share of the PC market away from IBM. Bill Gates, meanwhile, was upgrading *MS-DOS* and looking enviously at the Mac's graphical user interface (or GUI, to nerds in the know)

→ with Voodoo. Also planning to support the Voodoo chipset (and rumoured to be massively impressed with the early technology demos) is Psygnosis, which has an active interest in supporting the best cards currently in development.

With such developers in mind, 3Dfx introduced its software developer program, Total Immersion, at the Microsoft Game and Multimedia Developers Conference in London in February. The program features a comprehensive software developer kit which has been designed to make the Voodoo technology as simple as possible to implement. 3Dfx is also planning to hold an annual Total Immersion conference where developers can meet and discuss future and current Voodoo projects.

Unlike many of the other companies jumping on the 3D graphics bandwagon, 3Dfx does not have the PC market solely in mind - it is also targeting the arcade sector. Early in March the company announced details of *System 3D*, a customisable, lowcost, scalable system designed to power cutting-edge arcade games. *System 3D* is based on 3Dfx interactive's Obsidian 3D graphics card - a Voodoo-based board designed for coin-ops. Obsidian includes 3Dfx's highly optimised software libraries

Continued next page

As for the competition...

Despite the obvious qualities of the Voodoo graphics chip, it will be entering a market crowded with similarly-qualified contenders.

Here, Edge briefly sums up Voodoo's competition and lists the main software companies supporting each product. Most of these chips were revealed in the Autumn of 1995 and all are due for release this year.

VideoLogic

Unlike some of the chips here, the **PowerVR** set, designed by VideoLogic and marketed by NEC, has eschewed z-buffering in favour of VideoLogic's own Image Synthesis Processor, which cuts down on processing and memory overheads. The chip also uses the host computer's CPU as a Geometry Transfer Engine – again, a rather singular development. VideoLogic has *Rave Racer* running at 30fps in 640x480 on a P120.

PowerVR is being marketed for arcade as well as PC use. Hence the technology is similarly scalable.

Support: Namco, Psygnosis, Gremlin, Looking Glass

Edge coverage: E18, **E**30, **E**31

3Dlabs

The **Permedia** chip is 3DLabs' third generation of graphics acceleration technology, following on the heels of the Glint chip family (see **E**15 for more details). The Permedia chip boasts 25 million texture-mapped pixels per second, true per-pixel perspective correction, 500,000 50-pixel triangles a second, optional z-buffering, fogging, blending, translucency, overlays and bi-linear filtering. Supports a wide range of 3D APIs, including *Direct 3D*.

Support: VIE, Gremlin, Interplay, Bullfrog, LucasArts, GT

nVIDIA

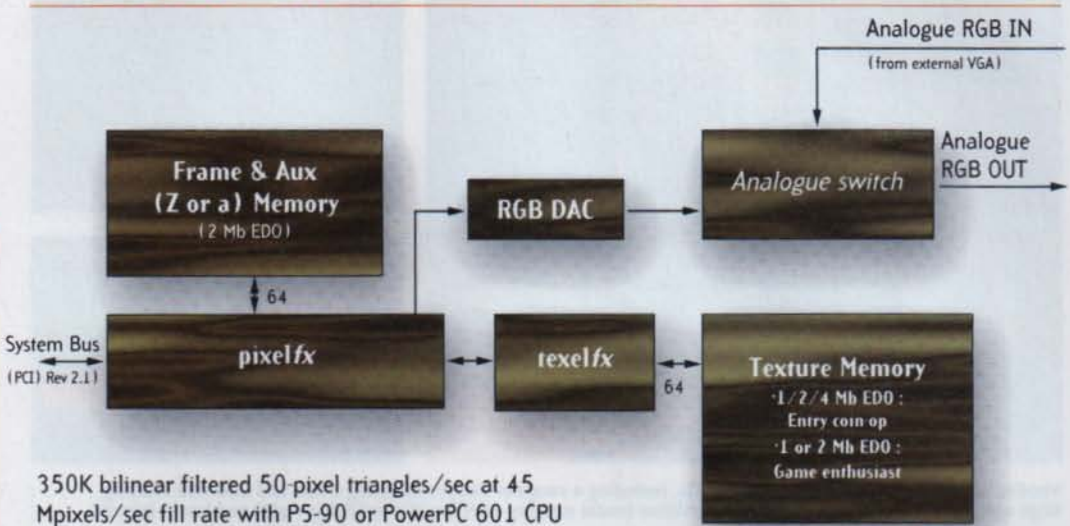
When announced last year, nVidia's **NV1** multimedia accelerator was the only 3D graphics chipset to use quadratic texture mapping. This allows developers to wrap bitmapped images around curves and spheres – an effect which can only be roughly simulated with triangular calculations. nVidia also claims the NV1 accelerates all 3D – triangles, quadrilaterals and curves.

Support for major APIs, perspective-correct textures, fog, transparency and video texturing goes without saying.

Support: Sega, Psygnosis, EA, GTE, Domark, Activision

Edge Coverage: E26, **E**29

Voodoo graphics game enthusiast board



According to 3Dfx Interactive, 'the first chip, pixel*fx*, is the primary graphics controller and contains interfaces to the PCI bus and companion texture-processing unit, texel*fx*. The 3Dfx Interactive pixel*fx* graphics controller is packaged in a 240-pin PQFP. Texel*fx*, the advanced texture-processing unit, is packaged in a 208-pin PQFP'. For arcade use the board is scalable and extra texel*fx* chips and texture memory can be added in parallel

It was...

1985, when the Sinclair ZX Spectrum and Commodore 64 still reigned supreme in the Euro home computer market. Jobs, ousted by former Pepsi marketing man, John Sculley, went on to form NeXT Computers and Pixar studios, creators of Disney's Toy Story

Continued

and has the capacity to deliver over one million texture-mapped triangles per second and a textured fill-rate of 90 megapixels/s.

Along with the Obsidian card, *System 3D* includes a Games Control Interface (which provides the system with a JAMMA-compliant interface to coin-op controls) and base CPU system boards developed by 3Dfx's partners. Importantly, Obsidian is scalable, enabling *System 3D*'s cost and performance to be tailored to each game's requirements and the machine's end venue.

First to take advantage of the Voodoo graphics technology will be Williams and Midway, makers of the *MK* series. After announcing an alliance with 3Dfx in April, they are ready to employ the chips in their next wave of coin-ops.



Ex-Williams staff have created this offroad coin-op using 3Dfx. Expect great things

... it goes on and on and on

S3 is responsible for a large range of multimedia accelerators for the PC market. The first two members of the company's new **ViRGE** (Video and Rendering Graphics Engine) family, the **ViRGE** and **ViRGE/VX** 64bit graphics accelerators, support all the major graphics APIs, including *Direct 3D*, *Reality Lab* and *BRender*. The single-chip systems also offer a range of 3D and 2D effects.

The higher spec ViRGE/VX adds resolutions of up to 1,600x1,200x16 million colours at 75Hz, and a higher memory bandwidth. See S3's web site (http://www.s3.com) for more info.
Support: Sony, Interplay, VIE, Mindscape, EA, Spectrum Holobyte

3D Rage is a single-chip system which ATI claims can achieve performance rates of over 20 million perspectively correct, texture-mapped pixels per second and 575,000+ Gouraud-shaded triangles per second.

Furthermore, like many of the other products listed, 3D Rage also offers optional z-buffering, bi and tri-linear filtered texture mapping and plenty of custom 2D and video effects, including video texturing (as with Voodoo).

Compatible with the usual list of API's, the 3D Rage chip is being used in ATI's own 3D Xpression Multimedia Accelerator card which will retail for $299 in the States.
Support: TBA

Yamaha's last chip, which appeared in a board designed by Philips' Paradise Division, offered 16bit colour in a variety of resolutions, hardware z-buffering and alpha channel effects, but no perspective-correct textures. It was also memory hungry, due to the fact that you *had* to use 16bit colour (placing a strain on non-Pentium machines).

It is known that the **RPA3** does offer perspective-correct textures, but little else has been revealed about the new chip at this point. Expect more info over the next few months.
Support: Domark, Dream Weaver

The **Vérité** single-chip graphics engine, with its 'micro programmable graphics RISC core and high performance, hard-wired pixel engine', offers perspective-correct texturing, bilinear filtering, z-buffering, alpha effects, etc. Rendition also promises a 180,000 triangles per second performance rate, as well as 2D support and VGA compatibilty.

The company claimed in February that Microsoft had chosen Vérité as the 3D acceleration design reference for *Direct3D* applications, and id recently stated, 'Vérité will be the premier platform for *Quake*.'
Support: id, Papyrus, Domark, VIE, Gremlin.

Intel prepares to **enhance** Pentium

The world's biggest chip manufacturer is ready to make PC games faster

Intel has announced details of its new MMX enhancement which will be added to Pentium and Pentium Pro chips before the end of the year. The new chip design, the most important update since Intel's 80386, will allow programmers to write more efficient gaming code, meaning MMX-compatible titles will be faster, smoother and more colourful.

For example, fading one 640x480 screen, which contains a 24bit colour image, into another, would take a current Pentium processor 1.4 billion instructions. MMX could do it in 525 million, allowing games currently written in 256 colours to be converted to 24bit true colour with no loss of speed.



While commentators speculate over the Pentium chip's speed limits, Intel have made it faster for games

MMX is not a new chip in itself, but a set of improvements to existing Pentium processors, intended to accentuate the PC's gaming potential. MMX adds 57 new instructions, mostly of a low-level variety, and mostly dealing with moving chunks of data from one memory cell to another. MMX can deal with bigger chunks (64 bits at a time) than the current Pentium chips because it implements the latter's big operating registers - originally intended to manage floating point operations (rarely used in games and multimedia products).

By employing the MMX/floating point register, instead of just the old Pentium register, certain operations, like changing the colour of sets of pixels, can be carried out simultaneously rather than one pixel after the other. Key operations in a game compatible with MMX would consequently be several times faster.

Adapting a game to the MMX chip only requires the re-writing of a small amount of

The MMX allows certain operations to be carried out simultaneously, making games several times faster

core code, mostly the sections written in assembler, which deal with things like moving one image over another. The new MMX code will then deal with the mathematics more efficiently.

Although Pentium MMXs and Pentium Pro MMXs will not start to appear until later this year, Intel are encouraging developers to write for the new technology as soon as possible. Microsoft, Ocean, Qsound and Epic have all expressed their support for MMX, and all major companies are expected to follow suit.

Bad Press

Edge once again trawls the depths of the popular press in search of videogames – the Aussies find religion; academics love playing *Doom*, too; and Elite targets beer-swigging students for recruitment. Disgraceful.

God discovered down under

The Australians, not commonly noted for their spiritual sensitivity, have apparently turned their backs on the senseless brutality of most videogames in favour of something a little more uplifting, namely *Exodus*, 'a *Pac-Man*-type game featuring Moses in his quest to pick up as much manna from heaven as he can, avoiding the Pharisees and, when confronted, hitting them with the word of God.' Looks like *Quake*'s got some competition at last.

(Source: Australian Outlook 01/03/96)

Videogaming rife within academia

DVD, a Californian company, has devised a programme to help British Universities combat staff and students who are wasting time and resources playing computer games. When deployed at Portsmouth University this sinister software 'sniffed out' and deleted over 140 'illicit' games in one faculty alone. So now you know why those essays take so damn long to get marked. Your venerable tweed-clad tutor's off kicking butt with his BFG.

(Source: The Observer 17/03/96)

Free booze for the Elite

Battling to fill vacancies due to a skills shortage in the West Midlands, expansion-hungry Elite Systems has been offering free booze to students who board their travelling 'career coach'. 'Once they hear of the free beer,' said Development Manager, **Daniel Luczywo**, 'there's no stopping them.' No stopping them what? Stampeding through the door half way through a finals exam? Drinking 'til they puke over their Docs? Shagging the nearest Homo sapiens within arm's length?

If, while perusing your 'favourite' rag, you happen to discover a news story or article bad-mouthing the videogames industry, send it to the usual Edge address and it may qualify for inclusion in Bad Press. Free subscriptions will be given in return for published stories

Nintendo's gameplan nears completion

Nintendo armours its 64bit console with an aggressive pricing strategy

Nintendo is another step closer to launching its 64bit console in Japan. Beginning on April 21, the company permitted consumers to reserve Nintendo 64s at Japanese retailers (usually with a 10% deposit) and the basic machine, which is due to go on sale on June 23, will be packed with a standard grey controller and AC adaptor. Additional controllers, available in a choice of six colours, will retail for ¥2,500 (£16), and 256K memory packs (officially called 'controller packs') for just ¥1,000 (£7).

Nintendo has also begun its press advertising for the 64bit machine in popular Japanese games magazine, Famicom Tsushin. Interestingly, the advert has not appeared on the magazine's outside back cover, which Nintendo traditionally books for its big game and hardware releases – it was ousted by Square Soft who wanted the space to shout about its 3D beat 'em up, *Tobal No.1* (see page 9). Following Square's defection to Sony, for the release of *Final Fantasy VII*, this outwardly insignificant point may, in truth, be a telling one.

In the States,

LucasArts has released shots of its much-anticipated *Shadows Of The Empire*. Due to coincide with the N64's US release on September 30, the title offers shooting, driving and flying gameplay over 12 levels, and should carry the usual LucasArts seal of quality.

Williams, meanwhile, will be demonstrating several N64 titles at E³ – *Doom 64* (thought to be the best thirdparty game in development for the format), *MK3 Plus* (an enhanced N64-only update of the hit coin-op, *Ultimate MK3*), and straight conversions of coin-ops *NBA Hangtime* (another basketball game from the *NBA Jam* team) and *Area 51* (an *Op Wolf*-style blaster with digitised graphics, borne from Williams' purchase of Atari Games, original producer of the lacklustre arcade machine).

Imagineer is the second Japanese N64 thirdparty developer to be officially →





Nintendo's first Japanese press ad for its 64bit superconsole (top) reveals the three launch games. The machine will make its western debut at E³ (above), along with numerous high-profile releases



Although Japanese gamers will be able to choose from controllers in a variety of colours, the west can have any colour – as long as it's black

GT plunders Atari's booty

Having purchased Atari Games, Williams has reached an agreement with GT interactive to publish a batch of classic Atari coin-op titles on the PC and 32bit consoles.

GT, which bought the exclusive rights to re-release treasures from Atari's back cat, is expecting the first titles – possibly including the likes of *T-Mek* – to be released at the end of the year. GT may also develop updated versions of Atari classics.

DATA stream

Share of total CD games market, Feb '96 –
PC CD-ROM: **69.1%**
PlayStation: **15.6%**
Saturn: **9.4%**
CD-i: **1.7%**
3DO: **1.5%**
Share of the $2billion European desktop software market accounted for by *Windows* applications: **92%**
McDonalds' annual expenditure on commercial radio advertising: **£3,925,000**
According to Playboy, average number of toilet rolls bought by an American household each year: **119**
Total sales of typewriters in the US in 1993: **$591 million**
Total sales of personal computers: **$6.9bn**
Amount of passengers that pass through New York's subway system each day: **3.5 million**
Percentage of visitors to Live '95 who were male: **70%**
According to media firm Network, number of boys who play 'electronic games' daily: **73%**
Amount of Mega Drives Sega expects to sell in Britain this year: **180,000**
According to a 1996 Durex report, amount of people who think their sex life is good or excellent: **over 50%**
Weekly viewing figures for Police, Camera, Action!, a programme showing poor-quality police videos of people driving badly, and then crashing: **16m**
Philips Electronics' net profits for the first quarter of 1996: **£148m**
Iceland's total seafood export in 1995: **approx 66,000 tons**
Position occupied by Fergus McGovern, managing director of Probe, in the Sunday Times' Britains Richest 500: **387th**









***Mission: Impossible* (top), Gametek's *Robotech: Crystal Dreams* (middle) and *Shadows Of The Empire* (above) are likely to be shown in near-finished form at E³ in May**

→ confirmed (after Seta, whose *Shogi* game is one of the three launch titles all priced at a rather hefty ¥9800 (£60), with three games scheduled. Currently, Japanese companies working on the Nintendo64, such as Imagineer, Konami and Capcom, have no publishing rights outside their home territory, so it may be a while before their games appear in the west.

The N64 publishing situation is generally proving to be a source of frustration. In a recent interview with games trade newspaper CTW, ex-SCEA president **Steve Race**, Spectrum Holobyte's new CEO, said, 'There is still no sign of a publishing plan for any licensee, and the machine is supposed to be just five months away from a US launch.' The Nintendo 64 version of *Top Gun*, which was being developed by the Spectrum Holobyte-owned Microprose, has duly been put on hold.

Datebook

May

William Latham and Zara Matthews – 'Chimera and Chromosomes' – May 18-July 7, Terrace Art Gallery, Harewood House. 'Latham identifies his influences as sci-fi films, gothic architecture, molecular graphics and Darwinian evolutionary theories. Both Latham and Matthew's art is inspired by their studies of the biological world and realised with the assistance of technology.' Contact Harewood House Trust, tel: **0113 288 6331**, fax: **0113 288 6467**

The Electronics Entertainment Expo (aka **E³**) – May 16 to 18, LA Convention Centre. The main games industry event of the year. All the biggest games companies will be in attendance, and over 1,000 games are due to be shown. This show is a must. Contact tel: **001 800 315 1133** or **001 800 315 1133**, email: **http://www.mha/com/e3/**

June

Virtual Reality World & VRML World 1996 – June 11-14, San Jose, California. Is VR the future of computing or an over expensive fad involving uncomfortable headsets? This is the place to find out. Contact Meckler Media, tel: **001 800 632 5537**, fax **001 203 226 6976**

Virtual Humans '96 – June 19-20, the Hyatt Regency Alicante, Anaheim, California. International conference on the role of the virtual human in VR environments. Organised by VR News, EDS and Silicon Graphics. Contact EDS, tel: **001 313 974 5686**, fax: **001 313 974 0724**

Centenary Degree Show – June 27-July 7, Royal College of Art, Darwin Building, Kensington Gore, London. Art students show off their work at two separate events – the one listed includes computer-related design and animation. Contact Royal College of Art, tel: **0171 584 5020**, fax: **0171 584 8217**

August

Siggraph '96 – August 4-9, New Orleans. Premier computer graphics and VR show. Contact ACM, tel: **001 312 321 6830**, fax: **001 312 231 6876**

Show organisers: if your show isn't listed here, it's only because you haven't told **Edge** about it. Do so by calling **01225 442244**, or fax on **01225 446019**, or send details to Datebook, **Edge**, 30 Monmouth Street, Bath, Avon BA1 2BW

Online gaming

Multiplayer *Doom* orgies are a feature of most PC-filled offices, but, with the advent of online gaming, they're coming home. Edge investigates

In America, commercial network companies have been providing multiplayer games for years, while in this country, only those working in offices full of PCs have been able to enjoy the sublime pleasures of multiplayer *Doom* sessions.

But that's about to change. Several online gaming services are due to start up in Britain over the next few months and, with interest in the medium so high at the moment, more are sure to follow.

Up amongst the main contenders is BT, whose own interactive gaming network, *Wireplay* (**E**28), is undergoing a trial period at the moment, but should become widely available in the summer. When it does, prospective users with a PC, a modem and a copy of the game they wish to play (only games with the *Wireplay* software built in will be compatible) will be able to log in, post challenges to other gamers or answer challenges already posted. Then, when a competition has been set up amongst users, they simply enter the game, with the BT server acting as a message router between the two or more participants.

Actua Soccer Euro '96 will be the first game to include *Wireplay* software but BT is also working with Virgin, Gremlin, EA and Microprose to produce *Wireplay*-compatible games. The service costs £1.50 (all inclusive) per hour online, which is expensive compared to another online service, E Online, but the games it supports will be brand new.



BT's *Wireplay* promises free subscription and net gaming at £1.50 per hour. It is currently being tested

Unlike *Wireplay*, Entertainment Online is actually just a straightforward internet site, rather than a self-contained network, and will be accessible with the *Netscape 2.0* browser. Opening for business on June 1, the site will include dozens of downloadable games as well as several multiplayer, server-resident titles.

To receive one of the downloadable game, subscribers go to E Online's website, choose the title they want and then wait as the game transfers from the server to the user's PC (this costs about £1). The site is launching with around 20 downloadable titles, including *Zool*, *Elite 2* and *Lemmings 2*. Virgin, Sony and Gremlin have all signed up to provide further back-catalogue titles.

As for actual online games, E Online offers titles such as *Tank Warrior*, a 3D tank sim, and *Realm 3D*, a 3D RPG. Subscribers can join an online game by going to the company's website and clicking on the required title. They'll have to download the relevant client software before they play, but, unlike the other two services, players will not need to buy the game before they play it online.

The main problem with this system is that, because of the slow data transfer rate of the internet, there's no way a sophisticated, visually impressive game like *Quake* could be played at an acceptable speed. Therefore, the multiplayer titles on offer, which have been written specifically as net titles, are unlikely to be the most sophisticated games in the world. However, E Online is looking into acquiring stripped-down versions of well-known CD-ROM titles to put on the online menu.



AOL (top), already a well-placed contender in the net gaming stakes. E Online is the young pretender

The advantage to E Online is that it's cheap. Subscription costs from £5 a month and after that everything is free (except of course, the cost of using the phone line).

There are, naturally, many other parties waiting in the wings. Commercial internet service America Online, for example, which has just set up operations in the UK, is putting together a package of multiplayer, online games which will soon be available exclusively to *all* subscribers in Britain. The company, currently updating its PC client software, is being rather cagey about what to expect, but is promising an exciting menu of top titles. AOL's charges (£5.95 subscription per month and then £1.85 per hour after the initial five hours of use) make it the most expensive option at the moment, but, considering the quality of the service in the States, it should be one of the better gaming providers.

In fact, expense – in the form of phone bills and subscription charges – will probably be the key barrier to the success of online gaming in the UK. However, rates are bound to drop as competition increases, and BT is currently cutting its phone charges in order to drag back punters who have deserted en masse to cable phone providers. There are even rumours that BT will soon make local calls free, as they are in most US states. If this happens, online gaming will become a much more affordable proposition.

Wireplay

The games network from BT

More info...

Entertainment Online

Although the service is not officially premiering until June, the website is already up and running. Entertainment Online is currently offering net users the chance to become beta testers for the gaming service. More details can be found on Entertainment Online's website: **http://www.e-on.com**

America Online

AOL costs £5.95 per month, with five hours of net access free. After the initial five hours, access costs £1.85 per hour.

At the moment, the online gaming content borrows heavily from the US service. Expect a new UK-specific gaming service this year.

Telephone 0800 279 1234

http://www.aol.com

BT *Wireplay*

Wireplay costs £1.50 per hour (inc VAT) off peak. Standard national rates apply at all other times.

This summer there will be a number of opportunities for trialists and non-trialists to take part in *Wireplay* tournaments and competitions across the country. See the website below for more info:

http://www.bt.com/home/wireplay

The way games ought to be

Hi-octane games theory by Chris Crawford



Photography by Mark Koehler

Number 4: Cosmetic perjury

How can great visuals actually deteriorate the quality of a videogame? Chris Crawford, gaming's most controversial columnist, explains all…

Since the beginning of time I have had a reputation for an anti-graphics philosophy. Ask anybody in the industry – they'll tell you. 'Crawford hates graphics,' they'll say. 'He rudely calls them 'eye candy' and expects his audience to make sense out of screens full of numbers. He's completely out of touch with market reality, that crazy old fool.'

In this article, I will explain what I really believe. My comments apply not just to graphics, but to all cosmetic factors in entertainment software: graphics, animation, sound, and music. I'm not extremist, everybody else is!

My first observation is that the design community has always been ga-ga over graphics. The genesis of this attitude is not hard to understand. In the early days, when we were screwing around with Apple IIs and Ataris, the graphics available on computers were execrable. The best you could get was a 320x192 two-colour display. Even that taxed the resources of the 8bit machines to the limit. Each such display ate up one eighth of the RAM in the machine, and it took several seconds to redraw such a screen, so that animation was an impossibility. Moreover, floppy disks of the time held about 100Kb of data, so a dozen such images would fill a floppy disk.

The IBM PCs didn't get adequate graphics until the advent of the VGA boards just a couple of years ago. Their sound capabilities were limited to mechanical tones until SoundBlaster boards and their equivalent became widespread. Thus, for most of our history, we've been fighting the cosmetic limitations of our machines. And this battle has warped our thinking.

Entertainment designers have been warped by 'cosmetics deprivation.' They've fought the problem for so long that it has become the only concern that matters, the one overriding issue that determines everything.

The fundamental point on which I insist is that the use of cosmetics is a means to an end, not an end in itself. I maintain that graphics, sound, and animation serve to communicate situation, emotion, context changes, and other aspects of the overall game experience, but that cosmetic factors are not in themselves the goal of the experience. The essence of the interactive experience lies not in what you see and hear – but what you do.

Perception is certainly the essence of the expository media. What you see and hear is unquestionably the essence of a movie. The fundamental difference between exposition and interactivity is that the interactive audience is active. Supporting and enhancing that active role for the audience is the prime objective of all interactive entertainment. Thus, perceptual factors, while playing the central role in expository entertainments, are reduced to a supporting role in interactive entertainments. They are a means to an end, not the end itself.

And what is the end? It is interactivity. Does anybody out there remember interactivity? It's what this whole revolution is supposed to be about. You don't see magazine covers touting 'Graphics Entertainment'. And what is the relationship between cosmetic factors and interactivity? I once wrote an article in which I explained that interactivity is composed of three steps: listening, thinking, and speaking. Cosmetic factors contribute to the success of the third step, speaking. That's all. They are necessary – but not central.

The mainstream game industry rejects this notion. The conventional wisdom is that graphics, sound and animation are the defining characteristics of good product. Occasionally you'll hear lip service paid to other factors, normally in the inarticulate comment that 'a game needs good gameplay, too.' Even then, the notion is merely an addendum to the prime directive of cosmetics. Industry wisdom holds that graphics are an end, not the means to an end.

'But Graphics Sell!' is the justification proffered for the mania over graphics. 'Hey, we're not imposing our own values on the customer, we're just giving them what they want. Products with impressive cosmetics sell. Products with weak cosmetics don't. Crawford's theories are all sound; the only problem is, they don't make money.'

This argument appears compelling, but its wording belies a catch. Yes, graphics sell – but to whom? Who is buying these graphics extravaganzas? Well, customers, of course – but what kind of customers? I would argue that graphics sell only to customers who value graphics. At this point, the 'industry wisdom' is that, of course, everybody values good graphics. That's self-evident.

Here we come to the fundamental logic misstep: industry people are guilty of assuming that the general public shares their own values. We all love graphics so much, we can't imagine how anybody else wouldn't share our joy at a clever animation. But the belief that the general public values good graphics is nothing more than an assumption, an unsubstantiated theory. We need solid facts related to the public's real interests.

Sales figures for individual products aren't the most revealing statistics to use here, because

their interpretation is dependent on other factors. For example, consider the role that the distribution system plays in distorting the customer feedback. We often call it 'the pipeline,' a term that suggests we stuff product into this passive pipeline, and customers purchase what they like. On the contrary, the distribution system is an active element in the equation, one that can reinforce an industry's misperceptions. If the distributors and retailers decide that cosmetics sell product (as they have), then they're not going to carry cosmetically-challenged product, and, voila! we have our proof before the public even gets a chance to vote with its money.

Of course, the whole point of the retail system is to allow experimentation that permits good new ideas to make lots of money, but that experimental opportunity works much better in the positive direction than in the negative direction. If we have a hot new Madonna Cone-Grabbing game, we can try shelf-talkers, self-display racks, posters, and all sorts of positive experiments to goose sales. If the public decides that Cone-Grabbing just isn't entertaining, then we shrug our shoulders; at least we gave it a try. But when it works in the other direction, when our industry expectations run against a class of products, the public never gets that chance to surprise us.

No, we need data that is more fundamental. And I have just the numbers to make my case. Consider first that there are more than 25 million home computers installed in the United States. Not personal computers, not business computers, but computers actually installed in people's homes.

Now let's look at some other numbers. A typical computer game might sell 50,000 units; a good one will sell 100,000 units. The best-selling computer games sell perhaps a quarter of a million units. These numbers might seem good, but compare them with the installed base of home computers. Our best-selling games achieve a market penetration of only 1%.

Look at it this way: 99% of all potential customers turn their noses up at our best-selling games. Sure, graphics sell, but they sell to a very small subset of the possible computer population. For the vast majority of possible customers, graphics don't have any proven sales value.

We are doing something seriously wrong, folks. We have missed the boat. The home computer revolution has arrived, millions of people have home computers, and yet we're still selling games by the thousand, not the million. We blew it bigtime; perhaps it's time to re-evaluate our assumptions.

At this point, a possible counter-argument arises. It runs like this: 'The general public is even less tolerant of poor cosmetics than computer aficionados. They are waiting for decent graphics. We must redouble our efforts to provide graphics, animation and sound that will appeal to the masses, not just computer nerds. Only then will the penetration rate increase.'

This argument collapses when we consider the historical record. We can all agree that graphics, animation, and sound have all improved dramatically over the years. This argument would predict that penetration rates would have increased along with the quality of our cosmetics. In fact the reverse is true. In the early eighties, the typical computer game sold about 10,000 units and the best-selling games sold 100,000 units, on installed bases of perhaps a million machines. That's a penetration rate of 10% for best-selling games, ten times better than the penetration rates achieved today.

So penetration rates have decreased even as cosmetic quality has increased. What more proof do we need that better graphics are not the way to the promised land? It's plain to see.

Another argument in defence of giving primary importance to graphics is that 'Graphics are necessary to the fantasy. If the player is moving around in a dungeon, or flying an airplane, or wandering in a forest, shouldn't we show the dungeon, sky, or forest as clearly as possible? Aren't detailed walls, textured landscape, and realistic trees better than simple line drawings or crude sketches?'

This argument belies the narrow-minded obsession that designers have with spatial issues. Notice that all three examples involve moving around in a spatial universe. Visual stimuli are necessary for successful navigation, and so, yes, better graphics are essential for such games. But why must our games always be so cloyingly spatial? Why are we always navigating, targeting and manoeuvring? How many movies focus their attention on the spatial behaviours of the characters? The design community has missed the boat; we spend all our time designing games about trivia when the rest of the world cares more about nonspatial factors. Concentrate on nonspatial factors and the argument in favour of graphics loses force.

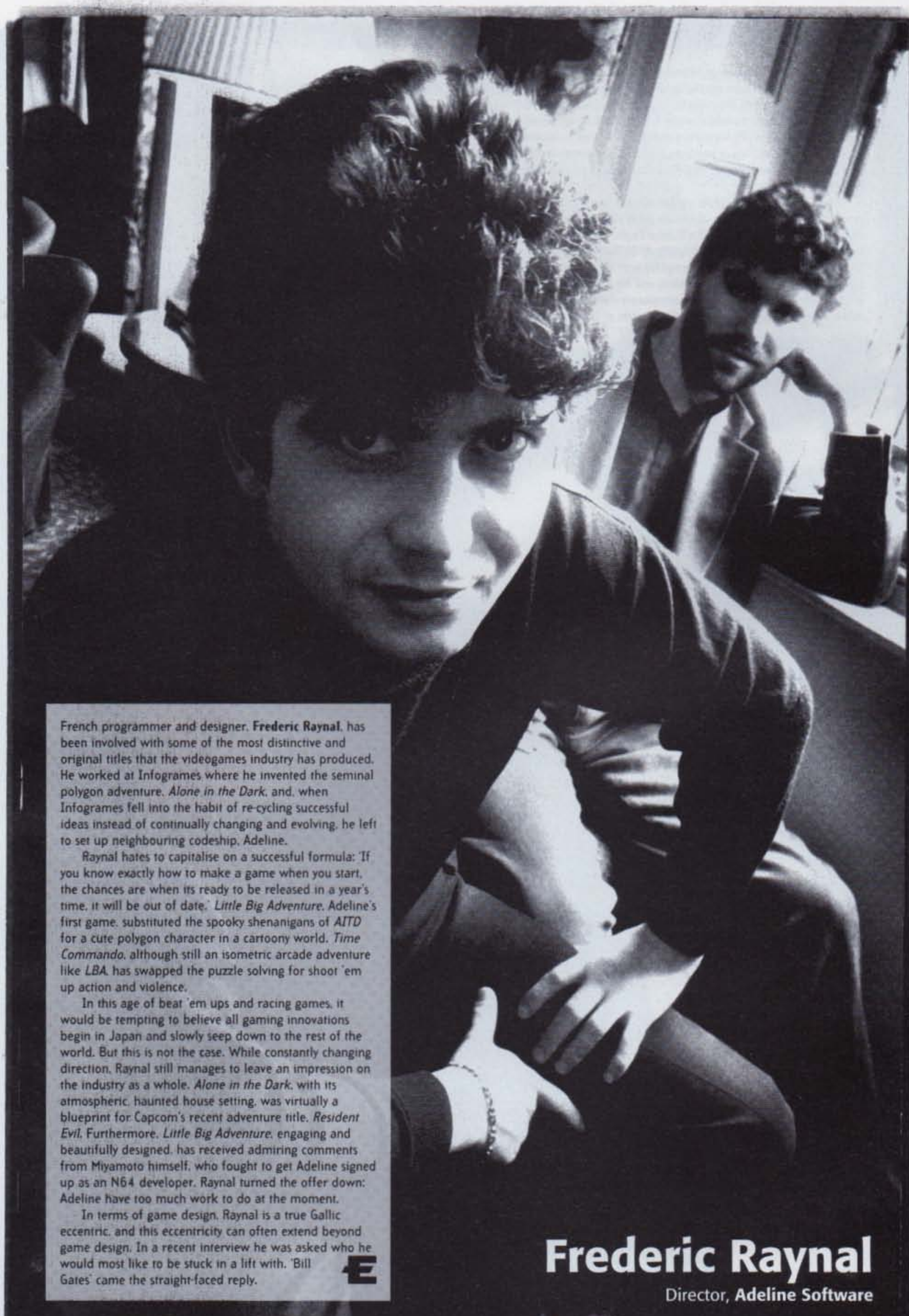
Then there are people who say, 'Better graphics can't hurt. C'mon, Chris, you can't be claiming that, given a choice between better and worse cosmetics, we ought to choose the worse. Any product will be more entertaining if it has better imagery, better sounds, and better animation.' This argument ignores business realities.

Interactivity is composed of three fundamental steps: listening, thinking, and speaking. Cosmetic factors contribute to the success of the third step, speaking. That's all

Products are built on budgets with schedules. You have only so much time and money to put into the product. Every dollar spent on cosmetics is a dollar not spent on the other elements of interactivity. Every day devoted to cosmetics is a day ignoring interactivity.

'But text Is boring.' This is a straw man argument. It presumes that the only alternative to state-of-the-art graphics is plain text. The reality is that we have a wide range of options, most of them graphic but which don't have to push back boundaries.

I argue against the extremist notion that cosmetics are the primary criterion for quality in interactive entertainment. Instead I argue the notion that cosmetics play a vital supporting role in successful interactivity. We should design our products with enough graphics, animation and sound to support the interaction, without detracting from it. E



French programmer and designer, **Frederic Raynal**, has been involved with some of the most distinctive and original titles that the videogames industry has produced. He worked at Infogrames where he invented the seminal polygon adventure, *Alone in the Dark*, and, when Infogrames fell into the habit of re-cycling successful ideas instead of continually changing and evolving, he left to set up neighbouring codeship, Adeline.

Raynal hates to capitalise on a successful formula: 'If you know exactly how to make a game when you start, the chances are when its ready to be released in a year's time, it will be out of date.' *Little Big Adventure*, Adeline's first game, substituted the spooky shenanigans of *AITD* for a cute polygon character in a cartoony world. *Time Commando*, although still an isometric arcade adventure like *LBA*, has swapped the puzzle solving for shoot 'em up action and violence.

In this age of beat 'em ups and racing games, it would be tempting to believe all gaming innovations begin in Japan and slowly seep down to the rest of the world. But this is not the case. While constantly changing direction, Raynal still manages to leave an impression on the industry as a whole. *Alone in the Dark*, with its atmospheric, haunted house setting, was virtually a blueprint for Capcom's recent adventure title, *Resident Evil*. Furthermore, *Little Big Adventure*, engaging and beautifully designed, has received admiring comments from Miyamoto himself, who fought to get Adeline signed up as an N64 developer. Raynal turned the offer down: Adeline have too much work to do at the moment.

In terms of game design, Raynal is a true Gallic eccentric, and this eccentricity can often extend beyond game design. In a recent interview he was asked who he would most like to be stuck in a lift with. 'Bill Gates' came the straight-faced reply.

Frederic Raynal

Director, **Adeline Software**

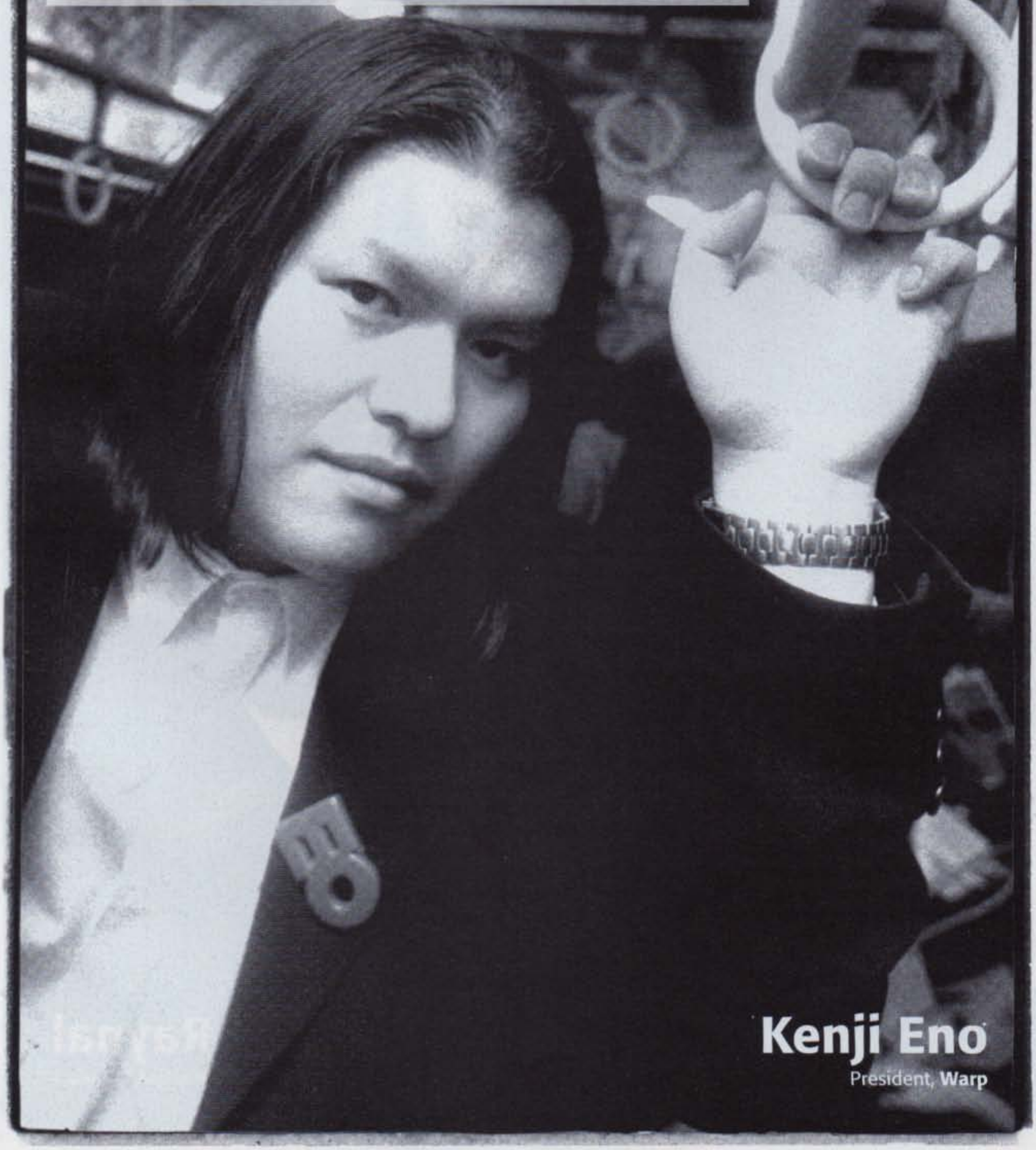
Photography: **Jude Edginton**

profile

Photography: Jude Edginton

Kenji Eno is no conventional Japanese softco head honcho. He is one of the new breed of digital entertainment visionaries emerging in Japan. Boss of Warp, a rising star in the community of Japanese videogame developers. Eno rose to fame after winning the 'Multimedia Grand Prix' (one of the Japanese game industry's most coveted awards) with the fully-rendered interactive movie, *D no Shokutaku* (known as *D* outside of Japan). By western standards *D* was no milestone, but for the Japanese market it signified a change in direction - an acceptance that games cannot continue to exist within the tight constraints imposed by a handful of corporate giants. Also, Laura, its lead character, supposedly attracted many adult Japanese females to videogaming.

'Most Japanese videogame companies are stuck in a rut,' he freely admits. 'There's no creativity, no innovation. I'd say there are about six good videogame companies in Japan and the rest are simply copying everyone else.' At the recent PlayStation Expo, Warp demonstrated its latest project, *EO* (Enemy Zero) to a rapturous reception, and Eno, apparently miffed by its licensing policies, snubbed Sony by announcing the Saturn version on a big screen complete with the offending logo. Coming on four CDs, *EO* is an ambitious project, and one that Eno is confident will be a far more interactive and long-lasting experience than its predecessor. And the fact that contemporary classical composer Michael Nyman (The Piano) is writing the game's musical score is indicative of Warp's stature as a small company with big ideas.



Kenji Eno
President, Warp

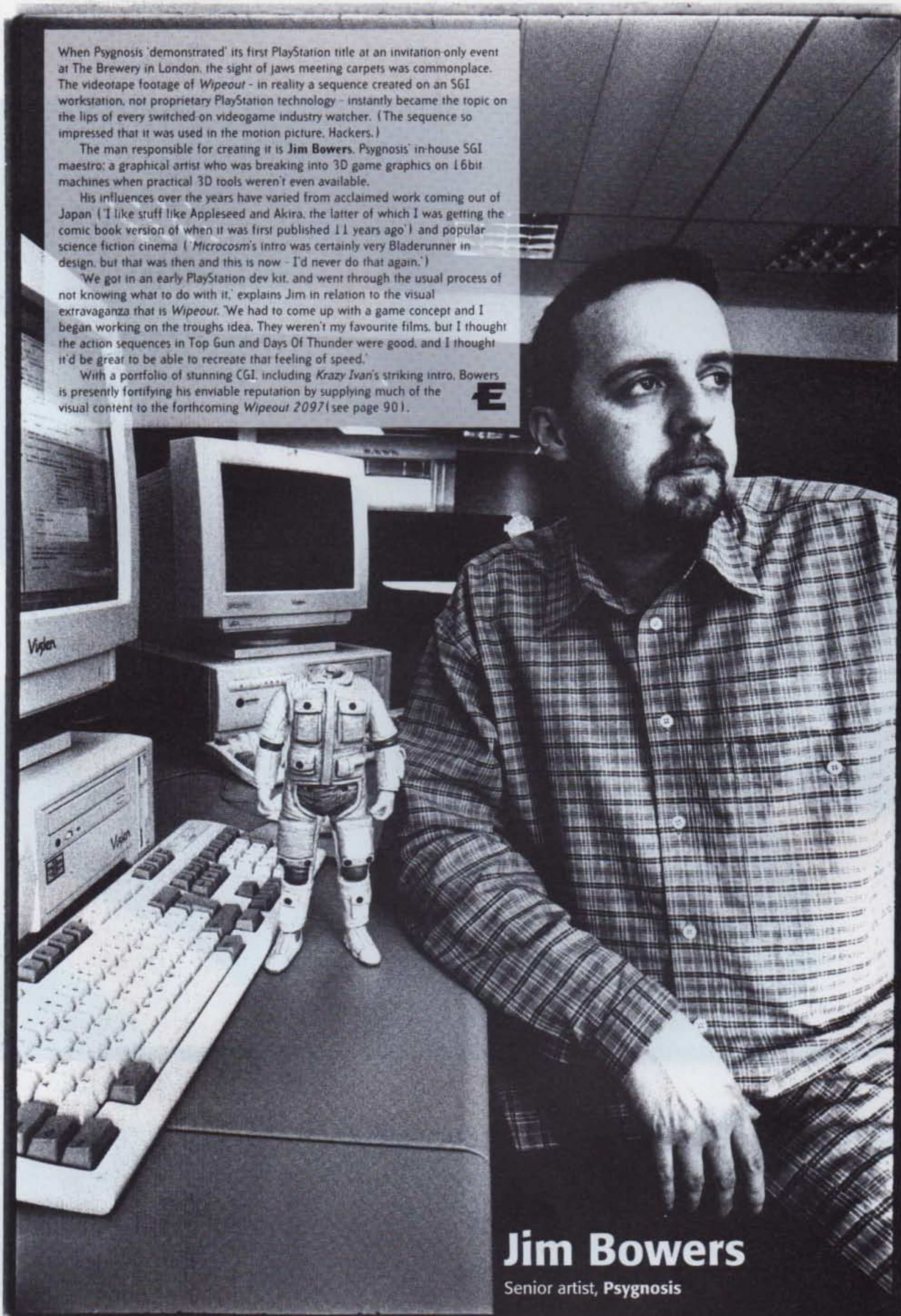
When Psygnosis 'demonstrated' its first PlayStation title at an invitation-only event at The Brewery in London, the sight of jaws meeting carpets was commonplace. The videotape footage of *Wipeout* - in reality a sequence created on an SGI workstation, not proprietary PlayStation technology - instantly became the topic on the lips of every switched-on videogame industry watcher. (The sequence so impressed that it was used in the motion picture, Hackers.)

The man responsible for creating it is **Jim Bowers**, Psygnosis' in-house SGI maestro: a graphical artist who was breaking into 3D game graphics on 16bit machines when practical 3D tools weren't even available.

His influences over the years have varied from acclaimed work coming out of Japan ('I like stuff like Appleseed and Akira, the latter of which I was getting the comic book version of when it was first published 11 years ago') and popular science fiction cinema ('*Microcosm*'s intro was certainly very Bladerunner in design, but that was then and this is now - I'd never do that again.')

'We got in an early PlayStation dev kit, and went through the usual process of not knowing what to do with it,' explains Jim in relation to the visual extravaganza that is *Wipeout*. 'We had to come up with a game concept and I began working on the troughs idea. They weren't my favourite films, but I thought the action sequences in Top Gun and Days Of Thunder were good, and I thought it'd be great to be able to recreate that feeling of speed.'

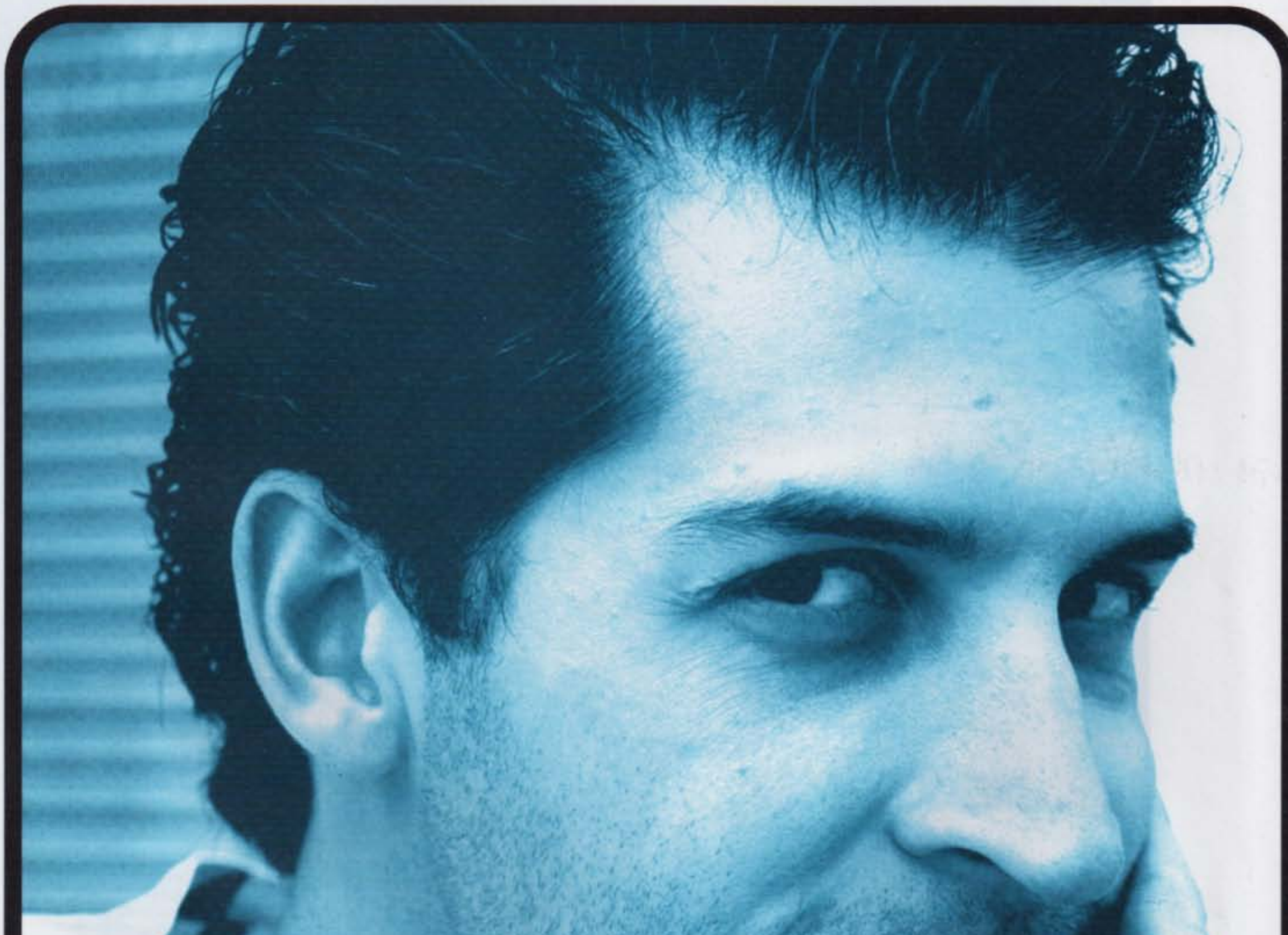
With a portfolio of stunning CGI, including *Krazy Ivan*'s striking intro, Bowers is presently fortifying his enviable reputation by supplying much of the visual content to the forthcoming *Wipeout 2097* (see page 90).



Jim Bowers

Senior artist, **Psygnosis**

Photography: **Martin Burton**



An audience with... Dave Perry

Edge asks why one of the most celebrated western game developers of the 16bit era is shunning 32bit consoles to develop for the PC

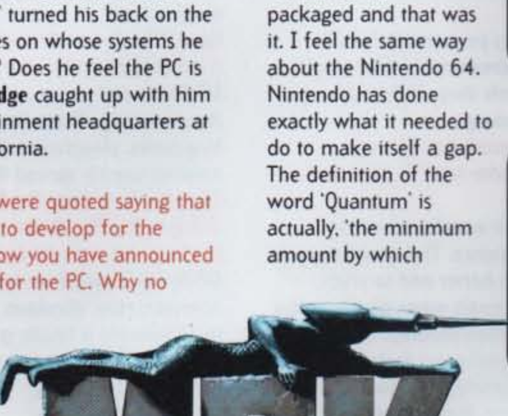
In a gaming world bustling with strategic alliances, corporate investments, publishing deals and 'most favoured developer' badges, a genuinely unbiased opinion is hard to come by. But **Dave Perry** owes favour to only Interplay (the company owns a small stake in Shiny Entertainment), and he is never afraid to speak his mind.

So far, Shiny Entertainment hasn't been a player on the next-generation battleground. At one point, 3DO was touting Shiny as one of the lead developers for M2. And prior to Shoshinkai, Perry was loud in his support for the Nintendo 64. But now - with still no PlayStation and Saturn titles unveiled - Shiny Entertainment is embarking upon *MDK*, its first PC title. So has the 'console kid' turned his back on the hardware companies on whose systems he built his reputation? Does he feel the PC is the way forward? **Edge** caught up with him at the Shiny Entertainment headquarters at Laguna Beach, California.

Edge In 1995, you were quoted saying that you were very keen to develop for the Nintendo 64. But now you have announced your next project is for the PC. Why no N64 development?

DP *MDK* was already being designed before we had decided Nintendo 64 or PC. As a team previously devoted to the world of cartridges, the N64 would have been our safest and easiest bet. However, we needed more. We had big plans for the game and needed some digital real estate to squeeze it into. The new hope became the CD-ROM-beating 'magnetic media' Nintendo promised us. We waited and waited, finally I flew to Tokyo to see it. No sign of it anywhere.

Hence the PC decision. To make us happy we thought of reasons why we would prefer the PC, like more time to work on the game as we won't have to wait for cartridges to be manufactured, for instance.



Edge What were your impressions of the Nintendo 64 at the Shoshinkai show?

DP Initially, after sitting in a plane for 11 hours and after all the hype, I was expecting the $40,000 Silicon Graphics' experience that had been alluded to. Of course, this was not going to be the case. However, the machine was very impressive for the money. Then again, anything would have looked good after all that airplane food.

Edge Do you believe the system offers a quantum leap in performance over and above the PlayStation and Saturn?

DP From the Clive Sinclair days of British home computers, the 'QL' or Quantum Leap was no great leap at all - it was nicely packaged and that was it. I feel the same way about the Nintendo 64. Nintendo has done exactly what it needed to do to make itself a gap. The definition of the word 'Quantum' is actually, 'the minimum amount by which certain properties of a system can change'. So enough said.

Edge As a game developer, where do you see Nintendo 64's strengths and weaknesses?

DP The cartridge is the weakness. It removes the ability to slam in copious amounts of animation, sounds, and spectacular effects. Its strength is the highly-detailed display and the funky joypad.

Edge If you were to develop a Nintendo 64 game, how would you go about making use of the analogue/digital joystick?

DP If I was on a hover bike, I could lean accurately into the corners. The only thing that Nintendo forgot was to make the buttons analogue as well. Imagine punching with different strengths or jumping to the height you want. I guess we will get that on the Nintendo 128.

Edge Does the prospect of a Nintendo online gaming network excite you?

DP Yep - it's time. It also can turn a game that would get boring quickly into a game with thousands of hours of playtime. It also supplies real learning intelligence to play against, which is still vacant in any game I have played. On the downside, expect to lose a lot of games to hermits that live on the network.

Edge Moving away from new technology, were you surprised by the technical virtuosity of *VF2* and *Sega Rally* on Saturn?

DP No, I have been waiting for somebody to make the move. Well done Sega! Especially the leap from *VF1* to *VF2*.





Edge How was Sega able to produce such a technological leap forward?

DP The Saturn does not make you breakfast in bed - which is what the hype proposed. You actually have to do some work, and to make it perform you need a large whip. Finally, programmers are convincing it to jump through hoops by using tight, fast RISC code, not sloppy textbook C programming.

Edge Will independent and third-party developers, such as yourself, be able to achieve similar results?

DP Funnily enough, I was down at the whip shop last week...

Edge Has Sega actively been sharing its secrets with the development community?

DP Not really. It offers technical support. It is in Sega's interest to give away *Sega Rally* code to developers. However, Sega is making big bucks off it at the moment, why should the company give that away? It is a big decision, I doubt it will happen. But then O.J. walked - anything can happen.

Edge But if Sega hides its secrets from thirdparty developers, it will result in fewer quality Saturn games, and it will also discourage thirdparty game development because no one will be able to compete with Sega's own. Wouldn't this be suicide?

Continued next page

interview

Continued

DP Sega makes very good arcade games. This translates - via great teams - into very good games. That gives Sega a built-in safety buffer. However, it still needs the good thirdparty publishers and developers who enhance the credibility of the machine. Sega should adopt the same attitude as Nintendo and protect its shelf space. If this means giving code to developers to keep overall quality high, then so be it.

But maybe then *Sega Rally* fans will end up with *Sega Rally 1, 2, 3, 4...*

Edge What is your prognosis of the Saturn's future?

DP I expect a graph of success shaped like the Himalayas. As each hit pops up so will interest, then it will swing low. This will happen until all programmers get to grips with the machine, then there will be a steady interest.

Edge So you see inevitable success for the Saturn, then?

DP If things stay on course and the public doesn't sell its soul for the Nintendo 64 - as they will in Japan - yes, there is room for Saturn. It has got up from the floor and just taken a swing back at Sony. Somebody should make the Sony vs Sega fighting game and write it on Nintendo 64.

Edge As for the PlayStation, would you agree that having started out with some very impressive games, its development of late seems to have stagnated?

DP Sony is doing its best to keep 'em coming. All that we are currently experiencing is the infamous 'too many games' syndrome. Hopefully, Sony will begin to filter out the rubbish. Then you will feel more positive in general toward the software. There are a lot of very talented people working on the PlayStation. Sony is being well supported.

Edge So you've seen evidence indicating Sony will be willing to filter out bad titles?

DP I like Sony. It has done a great job selling the PlayStation, and it is just getting too popular as far as development goes. I don't buy PlayStation games anymore as I bought a bunch of turkeys that, over time, wear down a buyer's interest. It did with me.

Edge Why are you not developing PlayStation games yourself?

DP We are, it's just the game is secret at the moment. It is based on a whole new set of characters. No, not *Earthworm Jim*. These characters were revealed at the Toy Fair in New York. We've been keeping the whole thing quiet.

Edge Sony is claiming that with its second-generation software engines, the PlayStation is capable of running the original *Ridge Racer* at 60fps. That's an improvement of over 100%. Do you think this claim is true?

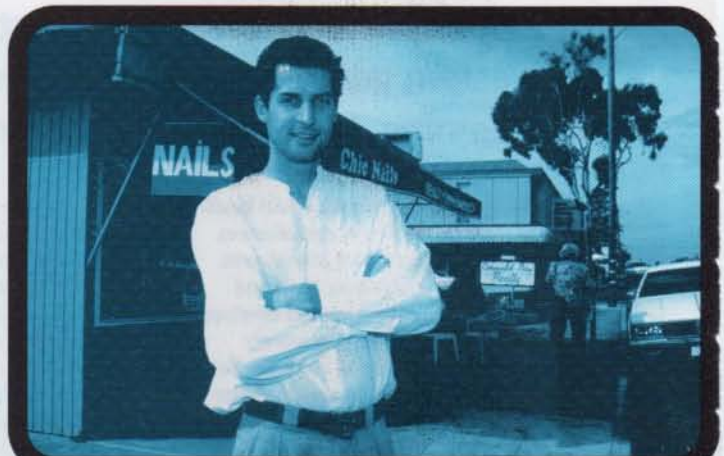
DP Totally. However, I don't want *Ridge Racer* at 60 frames per second. I want *Ridge Racer* at a screen res of 640 pixels across by 480 pixels deep. If Sony can do that, then it is smoking.

The Saturn does not make you breakfast in bed – which is what the hype proposed. To make it perform you need a large whip

Edge So, you feel resolution is more important than frame rate? Is this true for all game genres?

DP Yes, on a road it enables you to see farther into the distance. This enables you to negotiate obstacles better and so enjoy playing more. Big pixels mean blocky vision - I don't like my vision blocked. It also adds detail - you could make out facial expressions on characters, for example - and that's important. It also enables some cool programming tricks and effects.

Edge How do you think second-generation PlayStation software compares to the forthcoming Nintendo 64 games?



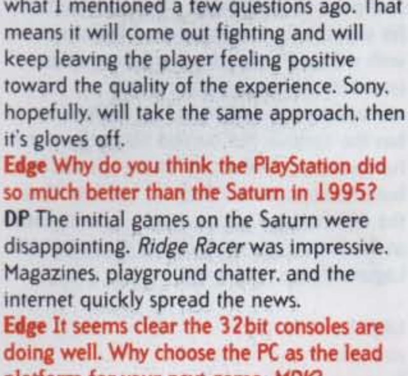
DP Nintendo has already got the filter on what I mentioned a few questions ago. That means it will come out fighting and will keep leaving the player feeling positive toward the quality of the experience. Sony, hopefully, will take the same approach, then it's gloves off.

Edge Why do you think the PlayStation did so much better than the Saturn in 1995?

DP The initial games on the Saturn were disappointing. *Ridge Racer* was impressive. Magazines, playground chatter, and the internet quickly spread the news.

Edge It seems clear the 32bit consoles are doing well. Why choose the PC as the lead platform for your next game, *MDK*?

DP It was a target we had dismissed. However, now *Windows 95* is around and the hardware is finally strong enough to support a three-dimensional action game, the timing is perfect.







These prerendered shots of Shiny's forthcoming *Murder Death Kill* give some indication towards the gameplay involved. The realtime graphics, surprisingly, have a fairly close resemblance

Edge There are more games made for the PC than for any other game system. Surely there aren't any gaps to fill in the overloaded PC games market?

DP A good game makes a gap. The PC market has no filter!

Edge What is the most impressive thing about *Murder Death Kill*?

DP The chilling feeling of murder and power that's portrayed. And, of course, the hi-res, realtime 3D...

Edge A lot of people are talking about 3D graphics and multimedia accelerator cards as the 'next big thing' on the PC games scene. Do you see this happening?



DP Yes, over time. But it will take time, until a killer game arrives that drives people to buy the hardware. When that game arrives, the news will spread. But it will take more than *Sonic the Hedgehog*.

Edge Despite *Windows 95* simplifying things for developers, there's still a shortage of decent PC games...

DP Give it time, there is a distinct lack of whips at the moment. Spreadsheet gurus are reaching for their joypads. Meanwhile, development companies are still reading through all the documentation. In the meantime, games like *Earthworm Jim* on *Windows 95*, for instance, are selling just fine.

Edge But the PC's arcade games are still woefully underpowered.

DP The PC is currently hanging in behind the console market, but dedicated gaming technology will be here soon. However, as always, more costs more.

Edge So you believe PC games on high-end (although still massmarket) systems will out-perform Nintendo 64 and M2 titles?

DP Yes - it is a while away, however. It is also silly to think that 8 to 16-year-old children - our best target market - are going to be buying these machines. That is why the console market will always win in reality. Also, as console companies control the quality of their games, the PC market has no such overseer. So to clarify, the answer is 'sort of'. I will be playing cool PC games at home, but we won't stop making console games in the office.

Edge Shiny was being touted as one of M2's premier developers. Is this still the case?

DP We were considering Matsushita's M2, but we have postponed the title until the machine hits the shelves.

Edge From what you've seen of M2 so far, what has impressed you, if anything?

DP I have not seen the final machine. The specs are very impressive, the silicon is



cooking. We are all waiting to see what dinner tastes like.

Edge What's your understanding of what Matsushita will do with the M2 technology?

DP I have no idea and that's my worry. Because Matsushita is big, it is not to be ignored or dismissed. It wears big shoes and could kick some major butt. However, I am still waiting to hear a plan. I hope that, like Sony, it really goes for it. Otherwise, it could turn out to be the most fun laserdisc player in the consumer electronics store that comes with a free joypad.

Edge What do you think about Trip Hawkins right now? Is he happy or sad?

DP Cha-ching! [grins]

Edge But from a developer's perspective, how big a problem is the fact that 3DO handed over all developer support to Matsushita?

DP Well, either we will beg them to stay or we had better brush up on our Japanese.

Edge Describe the best and worst case scenarios you could see unfurling for Matsushita over the next couple of years.

DP At best, 3DO keeps supporting developers, an M2 machine ships in September, and 3DO has something cool like *Alpine Racer* running better than the arcade machine. At worst, 3DO goes away, Matsushita is left on its own to deal with M2. It misses Christmas and it has no games and no Christmas presents. Game over.

Edge Do you think the 32bit games you've seen so far are better than 16bit games, other than their graphical aspects?

DP Yes and no. We have plans to bridge the gap. We think we have identified room for manoeuvre.

Edge Are you excited about the potential for networked, multiplayer gaming? If so, what are the problems associated with its development, and in what form do you think mass-market, multiplayer, networked gaming will eventually appear?

DP I can't wait, neither can the people who want to sell you ways and methods to do it. That's the problem, it will take time before winners, formats, and protocols emerge. Then it will be great. But then that's also what they said about VR...

Edge Who - or which software company - do you think is making the best games at the moment?



DP Sega on console, Namco on arcade, and Westwood on the PC.

Edge Are there any games you've ever played that have made you sit up and say, 'Damn, I wish I'd done that'?

DP *Virtua Fighter 2* is technically excellent. The companies I watch and admire now are Sega's 'AM' teams, Namco, Rare, and Psygnosis. I totally respect these companies and would pat them on the back if they were in my office right now.

Edge What are Shiny Entertainment's goals in this business?

DP To stay small, potent, and focused. And to hire more Scottish people!

Edge We know about *MDK*. You mention that you are working on a new game for the PlayStation with a new set of characters. Can you tell us more?

DP It's for the PlayStation and Saturn. The Saturn engine is 100% RISC. It's 3D. It has moves I always wanted to put in a game. It is realtime, not FMV. It is top secret and the first snippet will appear on the Shiny World Wide Web page when construction has finished (http://www.shiny.com).

Edge If a friend asked you which game system he should buy now, which one would you recommend?

DP Wait for the Nintendo 64 if you don't mind forking out $70 a game. If you like arcade games, go with the Saturn. If you're tight on cash, pick up a few Jaguars at $50 a pop. Ouch.

Techview

In an attempt to stop the 3D graphics market falling away from it, Apple is pushing its Mac software to the PC

QuickDraw 3D RAVE



Format:	Mac. Win95/NT
Publisher:	Apple
Developer:	In-house
Release date:	Out now
Origin:	US



The race for world domination of the exploding PC 3D graphics market has reached a slightly ironic crossroads thanks to Apple computer, developer of the Macintosh and arch rival to Microsoft and the PC conglomerate. *QuickDraw 3D RAVE*, the Mac company's dedicated 3D software, continues Apple's trend to make the Macintosh as PC-compatible as possible without adopting the actual operating system.

RAVE (Rendering Acceleration Virtual Engine) is a bold attempt by Apple to do for 3D rendering what its *QuickTime* software has done for multimedia. *QuickTime*, Apple's video compression technology and rival to Microsoft's *Video for Windows*, managed to infiltrate not only the Macintosh market, but *Windows*, too.

QuickDraw 3D RAVE, however, has its work cut out if it is to become as celebrated as its video-related stablemate. Going in direct competition with Microsoft's *Direct3D*, a currently *Windows*-only Application Program Interface (API), Apple is hoping the cross-platform accessibility of its software will make *RAVE* more popular with 3D developers. But recently Microsoft announced it will be expanding support for *Direct3D*, which could possibly include the Mac in the long run.

According to Apple, *RAVE* is 'fast gaining industry-wide support'. The number of endorsing companies is without doubt, but currently the Apple supporters, of whom only Diamond Multimedia (creators of the Diamond Edge graphics accelerator card – see **E**29) stands out, are not renowned for their killer 3D software releases. Microsoft, on the other hand, is likely to gain massive support for *Direct3D*, for the simple reason that it is Microsoft.

The *RAVE* technology will be compatible with any 3D accelerator, so long as a *RAVE* driver for that card has been written – custom routines can easily access the Apple code from within any typical programming environment.

Specifically, *RAVE* is an optimised Hardware Abstraction Layer (HAL) enabling developers to code directly to any 3D hardware installed for maximum performance, yet also providing optimised routines for software rendering and texture mapping. *RAVE*'s package boasts high-resolution texturing at up to 4,000x4,000 pixels, optimisation for SVGA displays or higher, and 4bit per pixel (16 colour) or 32bit per pixel (million colour) textures.

Henry Quain, vice president of marketing at ATI Technologies, one of *RAVE*'s supporters, is excited over Apple's technology: 'It is exactly what an API should be – it's thin, it's fast and it accesses all the tools that games and other 3D content developers need to do magnificent things. This 3D toolkit enables applications to exploit the power of specialised 3D graphics acceleration, such as ATI's 3D RAGE graphics card, further enhancing the 3D experience.'

Fine praise indeed, but only to be expected from a company backing what must now be seen as the underdog. On the games front, the only indicator of *QuickDraw 3D*'s power comes from Reality Bytes' *Havoc* (news, **E**28) – certainly the 3D technology enables some incredible texture-mapping, surpassing that currently available on the 32bit consoles.

Perhaps more important to Apple, which is developing the Pippin hardware found in Bandai's Atmark player, is the impact *RAVE* will have on the internet. As VRML (**E**32) creeps onto the web, more pages will take advantage of the versatility offered by 3D. Apple is wise to capitalise on this opportunity now before it slips away from it – too often in the past the company has found itself losing out to the competition thanks to rivals reproducing its ideas on more popular formats. Microsoft could be doing that right now.



Reality Bytes' *Havoc* is a fine indicator of *QD3D*'s potential

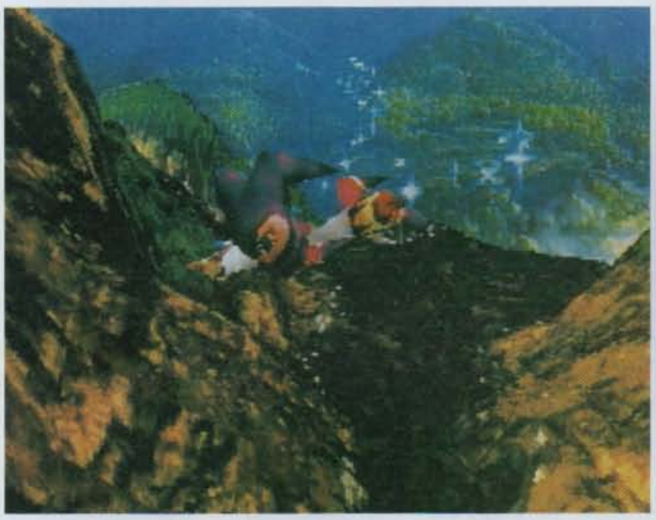


Rather than just being a software extension, the Macintosh version of *QuickDraw 3D* comes complete with 3D modelling tools. Expect the multi-format *RAVE* to be packaged with similar applications

Nights

Format:	Saturn
Publisher:	Sega
Developer:	Sonic Team
Release date:	Summer
Origin:	Japan

Developed by the coders who put the Mega Drive on the gaming map, *Nights* is their 32bit progression from *Sonic*





Flying through caverns and over mountains perfectly complements *Nights'* fantasy-based storyline. The character being controlled here is Nights, one of three new stars soon to be as big as *Sonic*, probably

History is cruel. Technological history is cruellest. John Logie Baird, the Scots inventor of television, let time and big business overtake his idea leaving him to make virtually nothing from his discovery. Sony – no lightweights in the field – saw its superior Betamax video system obliterated by its rough and rural JVC VHS cousin. Nintendo, the world's pre-eminent videogames company, had its European and USA markets slashed (at best) in half by the upstart (and *Sonic*-fuelled) Sega Mega Drive.

Sega, it seems, reads its history books. While the Nintendo 64 suffers another delay, the in-house team responsible for *Sonic*, *Sonic 2* and the rest, program busily. Which videogames machine was the first to use analogue control pad technology? Fresh from completing the Mega Drive instalment of *Sonic*, **Yuji Naka** and **Naoto Oshima** are set to make the answer to that question a very close call indeed.

Sega touts *Nights* as the Saturn's answer to *Super Mario 64*, and the two games certainly share some vital elements. Both will create interactive 3D worlds and give the user-controlled central character free reign to explore them. Rather than the 3D carnage organised by *Doom*, *Quake* and the rest, though, the accent will be on puzzle-solving and co-operation. Finally, both games will use analogue control pads with Sega launching a new pad (combining the traditional joypad and button combinations with a new analogue control set) to coincide with the summer release of the game.

On the face of it though, the similarities don't end there. *Mario* is set on the ground, *Nights* is a game about

Sega touts *Nights* as the Saturn's answer to *Super Mario 64*, and the two games certainly share some vital elements



***Night's Sonic* parentage is evident in sections requiring you to fly through hoops (left). A *Sonic*-like swoop occurs as players fly away**





Hard to believe, but *Nights*' 3D scenery scrolls in realtime as you walk or fly in search of clues and puzzles. Prepare to be amazed





Nights snoozes on a tree-top (top). The boy, Elliot Edwards, crouches (above)











Prepare to encounter some wild and bizarre characters on your travels, such as this top-heavy floating 'bunny' middle. Travel around the world is mostly flight-based (left), but walking is also possible (Claris Sinclair, right)



This prerendered art shows *Nights'* cast in detail (Nights, top, Claris, the girl, above)

flying. *Mario* has a cast of well-known characters, *Nights* will introduce a group of blushing debutantes to the world. *Mario* takes cartoon animation as its starting point, *Nights* looks to be set in an entirely more 'real' world.

Reality is a subjective concept, and it is the world of dreams that *Nights* seeks to explore. The storyline (as best **Edge** can understand it) runs something like this: after falling asleep, humans are transported to a place called the Night Dimension, itself divided into two polar realms. People with enough 'Idia' light are granted entry to the calm world of Nightpia. Those without, suffer in the tortured world of the Nightmare. Before anyone thinks they've stumbled into a Buddhist philosophy class, the reassuring world of the videogame cuts in. The boss of the Nightmare world has started to invade Nightpia. It is up to our hero and heroine to stop this invasion and keep the world of Nightpia safe for everyone.

To gain inspiration for the game, Naka (the producer) and Oshima (director) have drawn from the writings of **Frederic Holutsu**, the respected German psychologist and writer. By rooting game elements and characters on firm psychological tenets, the *Nights* team hope to establish game interactivity that goes beyond the explore, shoot and run of most.

Panzer Dragoon 2 demonstrates the graphical possibilities for a flying game but *Nights* looks set to easily supass this level. One thing the team seems keen to avoid, however, is the frustrating lack of control *Panzer* offers. 3D worlds are, after all, only graphical wallpaper if the player feels excluded from them. The game's analogue system should go a long way to addressing this, with relative movements of the control stick (rather than repeated taps) governing the speed and direction of character movement. By placing the characters in the air, Oshima and his team have made life potentially more difficult than it is for the ground-based *Mario*. Whether this be an advantage or disadvantage remains to be seen.

Nintendo has lost a lot of ground to Sega and Sony, maintaining all the while that when the N64 launches it will offer a set of distinctly different gaming principles. The lack of a Naka/Oshima Saturn release has distracted attention from Sega's proven talent with a Nintendo-esque attitude to games design. With their hands finally on the technology and an opportune release schedule, who knows how history will come to judge them.

Super Mario 64

With the Japanese launch of the Nintendo 64 a few weeks away, its flagship game is crawling towards completion







Although 80% complete, *SM64*'s impressive landscapes still seem rather barren, with enemies appearing as events rather than continuously





When compared to the PlayStation's *Crash Bandicoot*, *SM64* shows no obvious superiority

Format:	**Nintendo 64**
Publisher:	**Nintendo**
Developer:	**In-house**
Release date:	**June 1996**
Origin:	**Japan**

Although Shigeru Miyamoto may be supervising no less than ten of the Nintendo 64's in-house games (or at least those that will be published under the Nintendo label), it will be to his most famous creation that attentions turn when the N64 is released, and the world is given the chance to assess whether the king of games design can successfully re-invent the direction of next generation gaming.

Even though it's yet to be seen in its completed form, other companies are obviously taking *Super Mario 64*'s go-anywhere style of 3D adventuring as an important step forward. Sega has already announced Sonic Team's *Nights* in the same free-form vein.

Despite claims of astonishing gameplay by those lucky enough to have hands-on experience with *Super Mario 64* at last November's Shoshinkai unveiling, time and another delay have not done Nintendo any favours producing something of a gamers' backlash against the plumber and the Silicon Graphics-designed console.

Although there has been no real hype from Nintendo itself, merely the reiteration that it wants everything to be perfect before launching the Nintendo 64, expectations are running incredibly high. For the impatient, many whom have pledged their support and money to either Sega or Sony, the latest set of *SM64* screen shots to be released are unlikely to make them regret their decision. Although they reveal more of the game's locations, the usual plethora of obstacles and opponents seem conspicuous by their absence and despite claims that the *64*'s anti-aliasing mip-mapping feature has yet to be implemented *Super Mario 64* doesn't seem to be attempting anything that a PlayStation or Saturn couldn't handle. There's also the worry that, while the number of different locations is yet to be revealed, with *SM64*'s relatively tiny 64Mbit cartridge size the wonders of Miyamoto's 'interactive cartoon' could be woefully short lived.

Prophesying on still screen shots is a fool's game, though, and it would be a typical Nintendo stroke that when the game finally appears (which at the time of going to press is still scheduled for June 23) everything will be in place and once again Nintendo's in-house genius will show the world just what the videogaming experience should be. Until then, even the loyal and faithful must be starting to get those niggling doubts.







Effects such as reflections and translucency are all exploited in *SM64*

Pilotwings 64

Bringing flight sims to the masses, Nintendo resurrects another SNES favourite for the persistently-delayed Nintendo 64 launch

Format:	**Nintendo 64**
Publisher:	**Nintendo**
Developer:	**Paradigm Sim**
Release date:	**June (Japan)**
Origin:	**Japan**



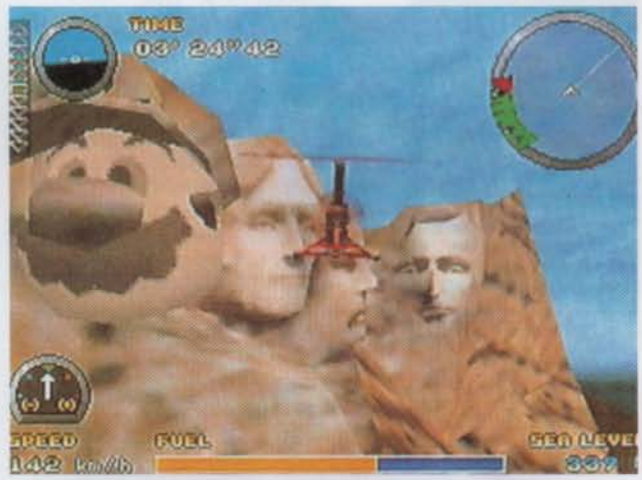
The three currently known types of craft are a gyrocopter, hang glider and rocket pack

Taking its cue from the Super Famicom's famously successful launch in November 1990, the second of the Nintendo 64's launch triple bill (the third being a uninspired-looking Japanese chess variant, *Shogi*, from Seta) is an update of the aerobatics simulation, *Pilotwings*.

In much the same way as the first game was used to showcase the power of the Super Famicom and its Mode 7 rotation and scaling effects, the Nintendo 64 version, this time programmed by US flight simulation experts, Paradigm, with Shigeru Miyamoto in a supervisory capacity, similarly sets out to impress. Famous monuments such as the Statue of Liberty, Mount Rushmore and the World Trade Centre are all there to navigate around, while the familiar aerobatics-testing hoops are still in place to challenge flying prowess and provide some form of scoring structure to the game.

Amazingly, during the five-and-a-half years since the release of the original game, no-one has really tried to emulate *Pilotwings*' distinct formula. The usual flight sim setup of daunting arrays of instruments and controls, combined with a limited display and sluggish frame update, badly needed streamlining for the pick-up-and-play console consumer. *Pilotwings* managed to weave an enjoyable game (complete with the usual console-style bonus sections and even a rescue mission/shoot 'em up) to a style of game not normally suited to low-powered games machines. *Pilotwings 64* extends this premise of hiding the complex technicalities of aerodynamics and accurate flight mechanics behind a façade of quirky characters and a diverse range of flying disciplines. Character and personality is an area in which Nintendo excels and the *Pilotwings 64* development mirrors that of the SFC game, *Starfox* (coded in the UK by Argonaut, much of its final gloss and design was added by Nintendo in Japan).

While the frame rate of the *Pilotwings 64* demo on show at Shoshinkai seemed to be slightly on the sluggish side, Nintendo's usual formula of providing enough variety of gameplay so that the player tends not to notice any small technical shortcomings (*Starwing* and *Stunt Race FX* being prime examples) bodes well for *Pilotwings 64*'s eventual appearance at the N64's launch on June 23.







The American iconology in some of *Pilotwings 64*'s scenery will, no doubt, seem exotic to Japanese gamers, but exquisite to western players





***PW64*'s detail is impressive, but a frame rate trade-off at low altitudes is very likely**

Quake

While most of the world gazes in awe at the public test version of *Quake*, **Edge** plays the single player game





Two typical *Quake* foes: the shape-shifting tar baby (top) and the leaping demon (above)

Format:	**PC**
Publisher:	**GT Interactive**
Developer:	**id**
Release date:	**TBA**
Origin:	**US**

Most people who can get near a PC network, and take their games seriously, will already have played the public test version of *Quake*. Posted by id to check the graphics engine and network support, the game, while wonderfully playable in death match mode, offered precious little as to how the single player game would fare.

But hacks posted on the internet within hours of the game going into distribution unlocked the non-player characters. Hence single-player gamers were given still-born versions of the monsters – including knights, dragons, ogres, demons, shamblers, tar babies and wizards. The test version featured just three levels, each with its own unique atmosphere. At the recent ECTS, **Edge** got a chance to play the oneplayer game, complete with walking, talking, shooting bad guys and some of the most ingenious level design ever seen.

The most impressive new enemy in the oneplayer game is the zombie – these characters grunt, moan and gurgle as they come out of the shadows and rip portions off their own torso to throw at you. Shotgun and nail gun blasts will merely knock them off their feet – to do more than stun them you're going to need an explosive weapon – pipe bombs are most effective at breaking them up. The polygonal models have plenty of detail, move convincingly, and are far ahead of the ones hacked out of the public test. Best of all, though, enemies' intelligence has come along in conceptual leaps and bounds.

To appreciate how slick the AI has become in the oneplayer game, just follow this scenario. There's a moving platform floating on a river of lava. You step on the platform and facing forward it takes you to a dead end. However, there's a right turn into a huge chamber, where two ogres await. At first attempt you're hosed before even making it off the platform. So, back to a saved game. A couple of corpses later, you figure out a way to kill the ogres without even getting on the platform. You stand at the lava edge and wait until the platform is about to reach the right turn, and then bounce pipe bombs off the platform and around the corner. This works the first few times – the ogres groan in pain as each bomb impacts and explodes. Yet you'd better not be too repetitive as they wise up to your plan and start bouncing grenades back on the moving platform. Clever stuff.

The graphics engine hasn't changed much from the test and other key gameplay changes include almost instant suffocation underwater, two new weapons (the lightning gun and the chain lightning gun) and the inclusion of dogs, which haven't seen the light of day since *Wolfenstein*. Id is still maintaining *Quake* will be ready 'when it's finished'. **Edge**'s money is on a June release for the shareware version, with the full game to follow six weeks later.







These new shots from the oneplayer game demonstrate *Quake*'s exquisite detail, qualities only possible thanks to id's graphic engine







***Quake*'s new engine features elegant – yet brutal – polygon models with incredible depth**



Human players are encased in chunk body armour and lug around impressive firearms

Crash Bandicoot

Sony's biggest game of the year is a 3D platformer with powerful visuals and a lead character whose inspiration is far from hidden



***Crash Bandicoot*'s most immediate impact is provided by its incredible Gouraud-shaded graphics. Very derivative of Mega Drive *Sonic*, *Crash* seems intent on trying to steal the 3D platform crown away from Sega's *Nights* (page 32) and, more importantly, Nintendo's *Super Mario 64* (page 34)**

Format:	**PlayStation**
Publisher:	**SIE**
Developer:	**UIS**
Release date:	**TBA**
Origin:	**US**

Sony has gone to enormous lengths to stress that *Crash Bandicoot* is not a mascot for the PlayStation. No – he is an independent game character with no branding link to Sony's hardware platform. Yes, he is a cute, acrobatic and eminently recognisable cartoon character, and yes he is the subject of much pushing and shoving within Sony's echoing halls, but he is *not* a mascot.

Crash shares more than an animal origin with Sega's Sonic, though. The bandicoot (an Australian rodent/marsupial combination) is, like the hedgehog, a much maligned and frequently ignored animal. And on the PlayStation at least, it can run at tremendous speeds, leap huge chasms and carry an unlimited supply of helpful goodies and tokens. Where *Crash* veers away from *Sonic* is in his perspective on life. Like *Super Mario 64*, this is part of an ever growing genre of fast-paced, wacky, 3D platform games.



Some of the special effects are lovely – this tree reflecting in the water, for example

Edge's first look at *Crash Bandicoot* revealed an interesting, but often confusing, platform romp. Technically a marvel, with wonderful scrolling, great polygonal animation and reasonably unobtrusive clipping, visually it actually looks a great deal like *Sonic the Hedgehog*, albeit from a 3D perspective. Gameplay-wise, as you might imagine, it is massively derivative. All the original features found in this game come as a direct and unavoidable result of the new viewpoint, rather than any creative leaps of genius by the design team. Many of the hazards that await *Crash* are enjoyable detours rather than unavoidable obstacles, such as the fast-paced river-rapids section, or the tumbles taken down mountainsides.

Crash Bandicoot marks a huge improvement for Universal Interactive, whose previous work includes the dreadful 3DO *Jurassic Park*. But *Crash* doesn't come without heavyweight competition – with *Nights* and *Mario* appearing on Saturn and N64 respectively, the 3D platformer is fast growing as a game genre.



Expect puzzling and exploring to feature highly on *Crash*'s list of gameplay elements

Mayhem

Mirage enters the increasingly overcrowded streets of the isometric strategy shoot 'em up







Mayhem's isometric display is detailed and impressive. The viewpoint automatically changes to give the player the best view of the action

Format:	PC, Mac CD-ROM Saturn, PS
Publisher:	GT Interactive
Developer:	Mirage
Release date:	Autumn
Origin:	UK

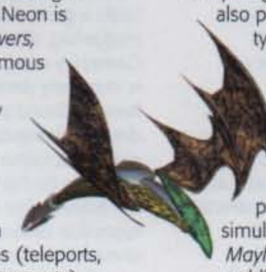






Big explosions appear to be an important part of the game. That's always a good sign

With the success of *Crusader* last year it was inevitable that an influx of isometric arcade adventures would follow. Hence, Domark has *Total Mania* waiting in the wings, German team Neon is working on *Vanished Powers*, and Mirage, previously famous (or infamous?) for *Rise of the Robots*, is currently putting the finishing touches to *Mayhem*, an 'action strategy blast 'em up'.



Mayhem is basically a shoot 'em up with puzzles (teleports, secret tunnels, hidden rooms, etc), thrown in for good measure. The story is hardly going to win any prizes for originality. It's the future and, yes, earth has been taken over by aggressive robots who, irony of ironies, were created by humans to carry out menial chores. The player controls a group of three mercenaries who must clear five city zones of droids, making the streets safe for decent folk. Each of the five zones is split into five maps which all represent a separate mission. Mission objectives vary, but mostly it's the usual 'destroy key installations and kill everything' type of stuff.



Luckily, though, what *Mayhem* lacks in originality it makes up for in size and visual quality. Each of the five city zones measures eight screens by eight screens and they're all incredibly detailed and well rendered. The explosions, especially, are gloriously over the top – some weapons are capable of consuming buildings, vehicles and everything else in one fiery gush. Mirage also promises at least 12 different types of enemy as well as dozens of different weapons to shoot them with.

This kind of game looks and plays exceedingly well on the PC and the network option, which allows 12 players to take part simultaneously, should accentuate *Mayhem*'s appeal – as should the addition of the player controlling three characters instead of one, adding an interesting strategic element.

It needs a graphical tweak here and there (some of the locations seem rather repetitive), and the puzzles will have to be well thought out so as not to interfere too much with the action, but *Mayhem* definitely looks good enough to compete aggressively with the existing competition currently available.

Some weapons are capable of consuming buildings, vehicles and everything else in one fiery gush

Fire Fight

The second of this month's PC shoot 'em ups hurls the player into a frenzy of mission-based violence




In *Fire Fight* players can obliterate everything in their path. Sting isn't around to protect *these* rain forests

Format:	**PC CD-ROM**
Publisher:	**Electronic Arts**
Developer:	**Epic Megagames**
Release date:	**June**
Origin:	**US**

Although the shoot 'em up is a staple diet for consoles and coin-ops, it has not been a prominent game genre on the PC. Maybe because of the hardware restrictions, maybe because, until quite recently, PC owners were perceived as thirtysomethings interested only in golf games and flight simulations.

Things seem to be changing. Taking advantage of the speed and graphical capabilities of upper-end Pentiums, developers are at last able to produce titles which can compete on the same ground as console games. *Fire Fight* is shaping up to be a good early example of the change.

Fire Fight, like *Mayhem* (see page 38), is an isometric, multi-directionally scrolling shoot 'em up, but with spaceships instead of robots and mercenaries.





The radar display permanently surrounds the player's craft, warning of enemies

The plot, as usual, is simplicity incarnate: the player flies a futuristic combat vessel through 16 levels of shoot 'em up chaos, destroying everything in the way. To help, the ship is surrounded by a rather innovative circular radar display, which is certainly more interesting than the usual 'dashboard' radar. This display indicates an advised navigation route through each level as well as showing up the whereabouts of any enemy craft in the vicinity. To deal




A landscape devastated by biomechanical warfare (left). Cybernetic enemy craft (right) guard a conspicuous nuclear reactor. Not for long

with the latter, you have a default laser, but you can also pick up several weapons of varying power and range along the way, each with a limited amount of ammo.

Edge has only seen one level – a forest base – in operation, but the game already looks impressive with luscious hi-res backgrounds and stylish space craft. A nice touch is the fact that the isometric display allows the player to pass under or over background objects giving a great illusion of depth and making the scenery more engaging than it otherwise would have been.

Even in its early(ish) stages of development, *Fire Fight* looks very promising. If the designers ensure there is plenty of variety to the landscapes and enemy craft, this should go a long way to cementing the PC's burgeoning role as a games machine.



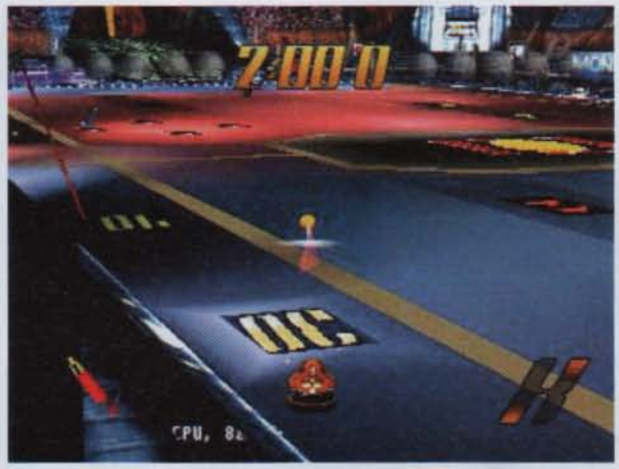


***Fire Fight* is mission-based with directives appearing at the base of the screen (top)**

Ballblazer Champions

LucasArts discovers the missing link between retrogaming and state-of-the-art with an update of eighties classic, *Ballblazer*





The original *Ballblazer* concept remains intact in *Champions*: two players go head-to-head, attempting to 'catch' a ball (left) which is then shot into the opponent's goal. Factor 5's update promises to be one of the most attractive 32bit games to date, thanks to its use of hi-res visuals

Format:	**PlayStation**
Publisher:	**LucasArts**
Developer:	**Factor 5**
Release date:	**TBA**
Origin:	**Germany**

In 1983, when the 8bit microcomputer revolution was beginning to take a firm hold, LucasArts released a game, based around an imaginary futuristic sport, to universal acclaim. 13 years later, *Ballblazer*, originally a hit on the Commodore 64 and Atari 800, is being exhumed under the guise of *Ballblazer Champions* by veteran codeshop Factor 5, whose CV includes *Turrican* and a number of 16bit console projects for LucasArts such as *Indiana Jones' Greatest Adventures*.

'It's based on the 1983 classic – it's still head-to-head, but apart from that everything has changed,' says **Julian Eggebrecht**, Factor 5's director. These changes come in the form of nine selectable player classes (one human, eight alien), variably-powered rotofoil crafts, upgradeable weapon systems and, perhaps most importantly, playing areas totally unlike those of the original.

'The playing surface isn't always flat, and the 3D in the complex stadiums gets as complicated as anything you'll see in *Super Mario 64*,' claims Eggebrecht. 'The game takes place on consistently bigger and more complex arenas. By the second level there are slopes and ramps, with the goals situated on the higher levels. One league in the championship consists of only natural stadiums which feature craters and canyons, with one entirely composed of ice.'

'In terms of special effects we have a complex lighting system – the ball itself is a realtime light source – and we're using a fancy particle system for dozens of huge explosion effects,' says Eggebrecht. 'In fact there's every type of SFX right now on the PlayStation.

'And we don't have any polygon "pop up" – we're drawing the whole stadium all of the time – all 6,000 polygons of it – and it's running at 30fps in one of the PlayStation's hi-res modes, 512x240'

If Factor 5 can successfully meld the legendary playability of the original with its own expert technical content, *Ballblazer Champions* has the potential to be one of the biggest PlayStation games of 1996.





A fullscreen mode is used for the oneplayer (vs CPU) and twoplayer link-up options







One of the game's 13 stadiums (top, middle) and a rotofoil (above) which you control

Interactive Magic



Destiny (above) Bill Stealey (right) and IM's HQ (below left)



North Carolina, previously only famous for rednecks, guns and God-fearing Christians, is now home to Interactive Magic, Bill Stealey's second foray into running a videogames company. His mission: to bring simulations and strategy games to the masses. Edge saddled up and moseyed on out to the tar heel state



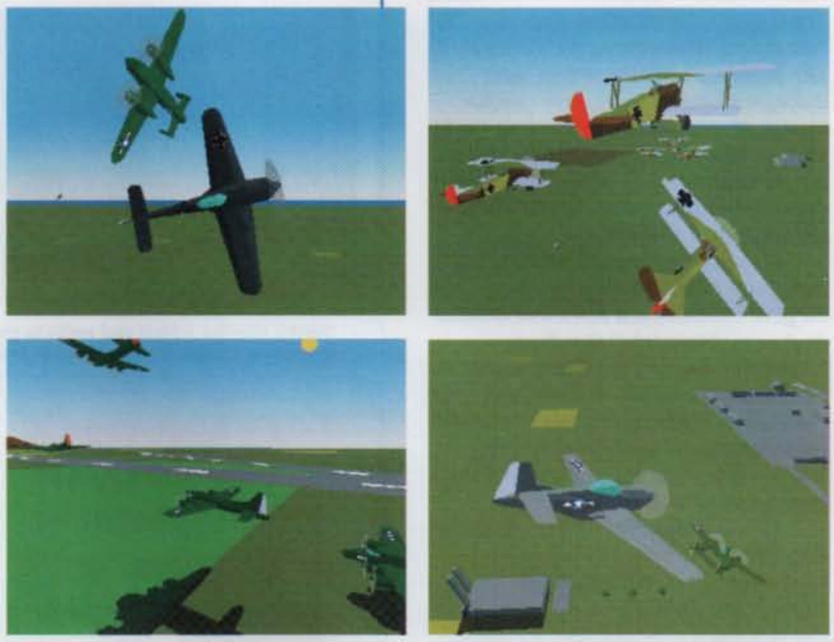
Format: **PC**
Publisher: **Interactive Magic**
Developer: **In-house**

It is a well-documented rumour that Microprose started as a bet. Apparently, a long, long time ago, **'Wild Bill' Stealey** bet **Sid Meier** 25 cents to design a better flight sim than *Red Baron*. Strangely, Meier went for it and came up with *Hellcat Ace*, a big hit, and the seed which would eventually spawn one of America's biggest videogame companies.

Bill stayed with Microprose until 1993 when the company's merger with Spectrum Holobyte left him without a clear position. 'Spectrum Holobyte had a lot of cash and very few products,' explains Stealey. 'Microprose had a lot of products and no cash. It was a great

marriage, but the new company only needed one chairman, so I resigned.' After a year spent improving his golf, Stealey set up Interactive Magic with the intention of producing the best sims and strategy titles and nothing else. So far, it's worked. Last year's *Apache* was a massive success and the company now employs around 70 people, has its own in-house development team and publishes games for strategy and sim stalwarts such as Digital Integration, Kesmai and Enlight.

However, despite the crossover appeal of *Capitalism* and *Apache*, most strategy games and flight sims still really only appeal to a relatively small ghetto of hardcore gamers. The challenge facing Interactive Magic is to widen the appeal of its chosen genres and to give people who aren't obsessed with, say, the wing spans of late fifties aircraft, a reason for playing strategy games.



***Air Warrior 2*'s online, multi-player option will allow participants from all over Britain to compete in death-defying dog fights. As a result, the skies can become pretty crowded**

Considering both Bill Stealey's background as a pilot, and the nature of most of his work at Microprose, it is no surprise that one of Interactive Magic's premiere products this year is a flight sim. *Air Warrior 2*, sequel to Kesmai Corporation's ancient 8bit original, includes 75 missions and 30 aircraft, taking in an impressive range of technology and scenarios from the First World War right through to the Korean conflict of the fifties.



***Air Warrior* features 30 different aircraft from the First World War to the fifties. Any can be selected**

For the sequel, Kesmai (under the guidance of Stealey himself) has improved the rather sparse flat-shaded polygon landscapes, revamped the cockpit displays (now based on photographic representations of the real things) and toned-up the general overall look of the game to produce a more attractive flying environment. Other than that, its mostly flight sim business as usual - bombing, dog fights, masses of controls, realistic handling; in oneplayer terms, *Air Warrior 2* is going to be pure fantasy stuff for propeller heads - and, almost by definition, pure tedium for almost anyone else.

However, the game, like its predecessor, is gloriously saved by the inclusion of an online option which allows players to challenge other would-be pilots via the internet. At the moment the service is only available via Genie in the states, but IM have negotiated a deal with America Online to get the game online through them. This means that, due to AOL's move into the European WWW market, the net version of *Air Warrior 2* should be available in this country within two months.





The importance of the online feature really cannot be overstated. Although **Edge** has only seen an early version, it was immense fun - a vastly superior experience to the usual oneplayer sim monotony. The main pleasure comes from the knowledge that you have human opponents, and that those little dots in the distance you're shooting at are controlled by real people and not some badly constructed AI synthetic. Furthermore, an inevitable secondary pleasure comes from sending enemies nasty messages during dog fights and gloating needlessly when you shoot them down.

But the player can go beyond simple maliciousness (if that's really necessary), and enhance the crucial element of social interaction by forming partnerships with other users. For example, if one person decides to fly a bomber, he can employ the pre-game chat mode to recruit gunners. In this way, four people from different parts of the world will be able to sit in the same plane (and swap positions on board if they get fed up).

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Furthermore, when entering *Air Warrior 2*, each player must join one of three 'sides' making it possible to set up more complex strategic alliances. A bomber, therefore, can be accompanied by several allied fighter planes, and the whole lot can fly off in formation and destroy a rival side's airbase. Again, great fun and impressively authentic.

Of course, the ultimate confirmation of *Air Warrior 2*'s authenticity is that Stealey plays the game obsessively and howls with immense displeasure whenever he's shot down. Furthermore, the mere fact that an ex-pilot can be shot down by people who have never flown real planes is evidence of the game's intuitive and uncomplicated control method. Either that, or a rather worrying indication of the condition of the United States Air Force.

Joining *Air Warrior 2* amongst Interactive Magic's flight sim output this year will be in-house effort, *F-22*, based on the new Stealth/F-16 hybrid. The title is currently in its very early stages of development, but aspects already look impressive. The landscape, for example, is created using real satellite photos





The *Air Warrior 2* front end seeks to give a true representation of air force life. Hence the option screens are disguised as a debriefing room (left) and a busy airstrip (right)

F-22's landscape is created using real satellite photos of each location, which are then mapped over topographically-accurate polygonal models. The result is some impressively realistic scenery which doesn't adversely affect the frame rate

of each location, which are then mapped over topographically-accurate polygon models. The result is some impressively realistic scenery which doesn't adversely affect the frame rate: *F-22* designers have the game running at 20-22 fps on a P90 making for a smooth, glitch-free flight. At the moment only early versions of the Grand Canyon and Colorado stages are in there (which look stunning at high altitude, but a little blocky close up); eventually the game will include locations all over the world.

Realism is already an evident concern throughout the title. The flight model is designed around information gained from the genuine air force F-22 sim, and the cockpit display is based closely on the original aircraft's layout. Although perhaps not an exciting proposition to the average videogame user, when *F-22* comes out it will no doubt have sim fans shivering with excitement behind their oversized joysticks. Luckily, the game will also include IM's net option, making it a much more attractive proposition to non sim fans.





The cockpit display in *Air Warrior* looks complex, but the controls are relatively intuitive, unlike in many other flight sims

One game which proved infinitely attractive to the layman was *Civilization*, and *Destiny* is a *Civ* clone which, on paper, sounds scarily similar to Sid Meier's quintessential title. In *Destiny*, the player must become a clan leader and guide his tribe from the Stone Ages to modern times, fending off the aggressive approaches of rival tribes and taking care of scientific, environmental, economic and military concerns along the way. As with *Civ 2*, the player can choose a predominantly military game (where victory comes through destroying all the other tribes on the planet) or a scientific one (where the player must be

the first to gain a certain technology) – or a combination of the two.

Fortunately, the designers of *Destiny*, UK team Dagger Interactive, have found areas to exert their individuality and move away from the rules set by Meier's legendary progeny. For example, unlike in *Civ*, *Destiny* participants can choose to focus their campaign on one era, so games can be played over a much shorter period and certain tactics can be practiced and perfected away from the main arena. Furthermore, it is possible for players to take a greater strategic part in battles – directing troops and vehicles as they would in a more complex wargame (rather than watching one icon moving on top of another).

Significantly, *Destiny* is realtime, rather than turn-based, putting paid to those long periods of strategic thought characteristic of the usual *Civ* session, and forcing the player to deal with everything in a realistic time frame. Consequently, because the player can't be everywhere at once, all units can be given commands so they carry out objectives without any direct intervention. In this sense, with the introduction of delegation and commission, *Destiny* is more of a government than a god game – again revealing another move away from *Civ* design dogma. At least in multiplayer mode: for those who can't deal with commanding all their assets simultaneously the oneplayer game can be switched to a turn-based mode.

Despite all the above, the most obvious difference between *Civ* and *Destiny* is the latter's 3D display, which allows players to zoom into a first-person view. Here, it is planned to be possible to see what the tribe members see and actually move amongst them, commanding them, so to speak, from ground level. The point, perhaps, is to provide a greater level of identification and to force the player into exploring the terrain in a much more natural way. There are 2D map options available, but, in the harder levels, these are logically kept unavailable until the player has discovered the compass and map-making.

'I wanted to create a new perspective on strategy games and I believe that *Destiny*'s 3D approach is an addition which alters the feel of the game and will attract those who aren't familiar with top-down maps and counter-type force markers'

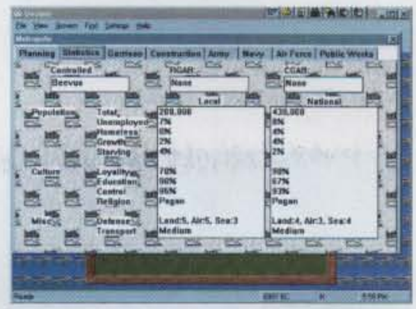
Adrian Earle, designer, *Destiny*





Destiny is _Windows 95_ native. Hence lots of, yes, windows. The point is to make _Destiny_ more accessible to those who haven't played god games

In spite of justifications, it would be very easy to dismiss the 3D element as mere eye candy – included simply because Stealey prefers IM games to be 3D. However, **Adrian Earle**, *Destiny*'s lead designer, is very clear on why the first-person view is present. 'The idea of a 3D environment was actually mine. I wanted to create a new perspective on strategy games and I believe that it's an addition which alters the feel of the game and will attract those who aren't at home with top-down maps and counter-type force markers.'



The player can call upon some complex data to make important decisions for _Destiny's_ tribe. Functional, but not exactly pretty

Dagger have certainly had no easy ride ensuring the presence of a *Doom*-style view. The original 3D engine, designed by Reality Lab, was too slow and the company were proving to be unreliable. As Earle states, 'they weren't even guaranteeing they'd give us a full version by the time we were meant to be shipping the game.' Therefore, the decision was made to rip the whole thing out and put in an Interactive Magic engine, which has turned out to be much faster and smoother.

At the moment, it remains difficult to see how 3D will be effectively implemented. **Edge** has only seen the display showing green hills and plains – what will happen when the landscape becomes more complex, littered with railways, roads, battlefields, factories, marauding armies, etc? Can the PC cope with such complex visual data in 3D? In any case, *Air Warrior* shows that complex visuals are not a prerequisite for playable games – interactivity is a much more important asset.

Luckily, Interactive Magic's key obsession has been passed on to Dagger and the

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prescreen

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emphasis in *Destiny* is definitely placed on multiplayer gaming rather than any oneplayer experience. Consequently, the designers have sought to steer players away from military conflict and toward the oft-neglected areas of trade and diplomacy. With more complex options and an intricate text interface available, players can barter with each other, double-cross each other, form alliances, and generally act as humans do and computer opponents, however intelligent, don't. With no AI to deal with, human participants can charge what they like in exchange deals, they can demand whatever they want in military tributes – there are no preset limits. Of course, *Civ Net* offers the chance for human



'Wild Bill' Stealey is a great exponent of online gaming. Hence, most of Interactive Magic's games will go online in the future

interaction, but hopefully, because *Destiny* puts this at the forefront, it will deal with it in much more depth.

Perhaps as a result of Interactive Magic's specialist scope, and the strong influence of its founder, the company presents a much more unified philosophy about what makes a good game than many other producers. Stealey's beloved online option, which will prove very important when *Air Warrior 2* premieres in a few weeks' time, will eventually make its way into each release – fully establishing a commitment to multiplayer gaming. There is one problem, though – many gamers are still wary of complex flight sims and strategy titles being essentially oneplayer experiences, but may well be much more receptive to the multiplayer possibilities. The challenge for Interactive Magic will be to convince those players that forking out £50 for *Air Warrior 2* – just for the online game – will be worth it. When media interest in internet gaming becomes more intense (as it inevitably will over the coming months), and competition forces BT to cut the cost of local calls in this country, Interactive Magic should not find the job too difficult.

That's interactive magic

iM1A2 Abrams

The inspiration for this in-house battle sim comes from Microprose's seminal *M1 Tank Platoon*, with which Stealey was immensely impressed. So impressed, in fact, that *M1* creator, **Arnold Hendrick** (handily, a good friend of Stealey's), has been persuaded to leave Microprose and go to work on *Abrams*.

The only thing that's clear about the game at the moment is that the player can take on the roles of captain, driver and gunner in turn, each with a different screen layout. As with the other sim titles, *Abrams* is mission-based and, of course, includes texture-mapped polygon vehicles and 3D textured landscapes. It will also feature the omnipotent net option, meaning four people will be able to 'virtually' cram themselves into each vehicle. Should be a hoot.



***Abrams* is in its very early stages of development, but Interactive Magic promise gorgeous 3D graphics**

American Civil War

'The premise of the game is that you can take control of the south, win against insurmountable odds and effectively change the course of history.' So says associate designer, **Brian Davis**, about Interactive Magic's only game not to implement 3D graphics.

Developed in conjunction with Adanac Command Systems (who originally released a rougher version via mail order), *American Civil War* is, on the surface, a standard turn-based war/strategy title. The player gets to command either the confederates or the yankees and must oversee the war effort in the standard 'move icons over the flat, hexagonal map' way.



***American Civil War* uses that classic hexagonal design for its map screen**

The difference here is that both economics and politics play a role aside military conquest. Players controlling the south can court European countries for financial support, and those controlling the north must make sure Abe Lincoln isn't voted out of power and replaced by (gulp) pacifists.



In *Decathlon*, strategic mouse clicking replaces the joys of joystick waggling

Decathlon

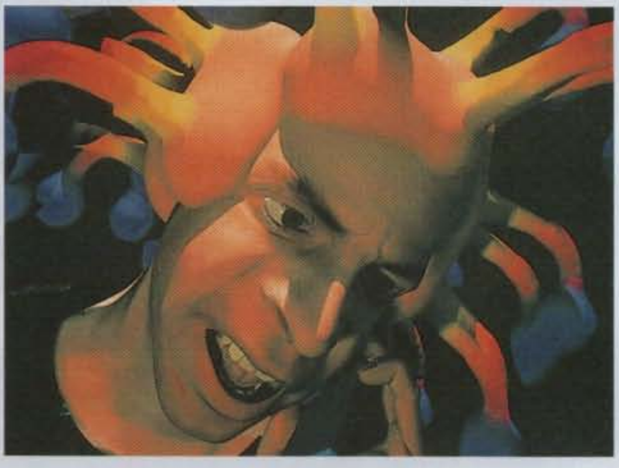
Jumping early on the sports game revival bandwagon, this title allows players to take part in all ten events which make up the modern decathlon. Players can also customise/create their own competitors (manipulating height and weight as well as sprinting, jumping and throwing abilities) and then pit their own decathletes against 'world class competition' – ie, suspiciously good computer opponents.

At the moment, the polygon-based athletes are rather poorly animated and the gameplay slightly limited (eschewing the old joystick-waggle fest in favour of a few well-timed mouse button presses). However, **Edge** saw a very early demo and, despite the qualms, it already looks reasonably addictive.

In this country, the game is being endorsed by Daley Thompson, who will give the player hints and tips throughout the game. Despite the different presentation, though, comparisons with the 8bit *Daley Thompson's Decathlon* are inevitable.







Alian worlds





Leading CG artist **Chris Landreth** has pioneered realistic human synthesis (top) with Alias' *PowerAnimator* (top right). Ocean's *HMS Carnage* (left) and *Killer Instinct* (right) are also Alias-rendered

Alias|Wavefront is one of the most influential companies in the videogames industry. Without it, the sophisticated worlds of *Super Mario 64* and *Quake* would be just a dream. But now a new vision is about to be realised – Project Maya

A few years ago, high-quality prerendered graphics, ultra-realistic 3D models and super-fast workstations were relatively unheard of outside the graphical dreams created by the likes of Industrial Light and Magic (ILM), Digital Domain and Lost in Space. Today, a new language has come into being as Reality Engines, SPARCS, Alphas and PCs jostle in





After *Donkey Kong Country* (top), A|W's graphics became world famous, now assisting the N64

the mass marketplace to provide the ability to bullet render photo-realistic images for less than the price of a small car.

One of the key players lurking behind this visual revolution is Alias|Wavefront. Like a true eminence, A|W (along with arch rivals SoftImage) provides the tools, that make the images we see today. Operating largely behind the scenes with software that was undreamed of even three years ago, the Canadian companies have transformed realtime gaming images from crudely drawn sprites into richly rendered and superbly detailed 3D models. **Peter Ryce**, A|W's game technology evangelist sums up the company's influence: 'I went to the Computer Game Developers Conference earlier this month and every award-winning title had some Alias input. It's a unique company in this way.'

It was perhaps the unveiling of *Donkey Kong Country* for the SNES at the Summer CES in Chicago that pushed Alias firmly into the limelight. Suddenly there was a new firm working with Nintendo and development supremos, Rare, that was helping to create arguably the most detailed, fastest and glitzy graphics ever seen in a videogame. *DKC* sales of an estimated seven million in the first-year alone, created an A|W publicity blitz before *Killer Instinct*, with its additional 2,000,000 first-year sales, finished off the job. The part of the industry that hadn't already woken up to the potential benefits of 3D models saw that two of the world's most successful companies couldn't both be playing with the wrong partners.

A|W's special status is confirmed when you realise that it supplies and supports all three big hardware manufacturers. 'I believe we are the only company that has signed development tool agreements with Nintendo, Sony and Sega,' continues Ryce (Nichimen has just signed with all three, too – see news, page 14). 'We've just signed a 50-seat deal with Sega [meaning 50 copies of the software will go to that company] and more than that to Square. All of *Quake*'s characters were rendered with our







Using Alias|Wavefront's *Dynamation* package, explosions were possible in *Tilt* (top), realistic hair was created (middle) and bubbles were added to Crimson Tide's torpedoes (above)

PowerAnimator software, as were Acclaim's *Alien Trilogy* and *Mario Kart 64*'s.' Add to this the deceased US hardware contenders, the Jaguar and 3DO, and it's fair to say that A|W has helped create games for

Alias | wavefront



Rob Burgess, Alias|Wavefront's president: 'We've never once leaked a secret,' he discloses

every modern-day platform.

But, with A|W being part of the same company as Nintendo's 64bit hardware developers, SGI, there was a fair amount of scepticism from opposite camps about using the A|W tools. **Rob Burgess**, A|W President, explains: 'One of the concerns the games companies initially had about dealing with us is the fact that we have this great deal with Nintendo. Obviously, there are so many secrets involved with release dates and new technologies that Sony and Sega were wary. The thing I think took them a while to realise is that the film industry, which we've been

Continued next page

Company focus

Continued

dealing with for ten years, is equally secretive and paranoid of the other companies, but we've never once leaked a secret.'



Although *PowerAnimator* is the core software for the creation of 3D models, it is supplemented by a huge range of support applications designed to make the final images as realistic as possible. Many of these apps are used mainly by Alias' Hollywood clients like Digital Domain, ILM, Angel Studios and Pixar, and haven't yet filtered down into the more time-sensitive videogames market. *Dynamation*, Alias' particle rendering system that has been used to create smoke in Judge Dredd and air bubbles in Crimson Tide, is one exception. NMS has used it to create electronic explosions in its pinball game, *Tilt*, and the strangely named *CompuHair* derivative was used by Rare in *DKC2* to add realistic fur.

A|W's evolution

into its current form was less than straightforward. Only a year ago it was two unrelated and competing companies – Alias Research and Wavefront Technologies. Each company had different strengths that evolved from their specific origins, but Alias was certainly used within the industry more and was seen as the number one rendering package. The merger announcement on June 15 1995, not only meant old rivals were to become partners but that California-based Silicon Graphics would be integral to the new company. At the same time Alias|Wavefront was created, it merged with Silicon Graphics to become a wholly-owned, independent software subsidiary. The implications were enormous as the resulting company was many times stronger than the sum of the constituent parts.





Rare's *Killer Instinct*, like *Donkey Kong Country* before it, is another multi-million selling game that owes a lot to A|W's tools

The radical corporate changes may have been on the cards anyway but were made vital due to events occurring a couple of months prior. Microsoft, the giant Seattle company, had finally, belatedly, decided that 3D was a good thing and it should be investing in it. So, in a widely publicised move, it bought SoftImage, Alias' most significant rival. The reasoning behind this was twofold – to make money from the successful *SoftImage* package, and in the long-term to establish the PC, and with it *Windows NT/95*, as an acceptable, cheap rendering alternative to dedicated graphics workstations like SGIs. Although this would take time,



SGI's ultra high-end workstation technology (Infinite Reality, above) is of crucial importance to A|W

the end prize of the PC dominating yet another market was worth the initial outlay.

The flurry of activity in the first half of last year reached a peak with A|W's announcement of Project *Maya* at the 1995 Siggraph show in Los Angeles. Project Maya (no relation to Project Reality) was A|W's and SGI's joint view of the future of graphics. The company describes it as, 'the first step on an accelerated path to build the ultimate digital media creation environment.' Practically, the aim is to increase the level of possible graphical realism, to speed up the rendering process and to make the method of creating the digital art as natural as possible.

'Maya is basically re-architecting our complete product lines,' says Ryce. 'We had an option to either go forward and try and make the two sets of products talk better, or we could start afresh. Just for starters, Maya allows us to take the best from both Alias' and Wavefront's technologies and integrate them.' This integration obviously had to occur in the short term as well. Most games have approximately two-year development cycles and the release of an enhanced set of tools last year (*PowerAnimator 7*) helped smooth the transition. A|W recognised people would be unable to radically alter their working methods immediately and are phasing in Maya over the next year.

Maya's strengths revolve around it being an entirely open technology – users will be free to write specific routines to customise their copies of the software, and thirdparty developers will have free access to the software to produce add-ons and plug-ins to complement the standard code. The approach is somewhat analogous to the number one web-browser software, *Netscape*, where a multitude of custom extensions are already available. This open-ended

attitude is the only way the OpenGL Maya could compete.

At an end-user level, Maya's vision becomes more obvious. Art today still depends on tactile hand-eye co-ordination and Maya recognises that, currently, it is the humans and not the machines that have to adjust. The most talented artists working in the traditional four rendering windows make the tools sing, but there is always the feeling it is an unnatural and convoluted method of generating models.

Maya's second major task is to introduce a whole new relationship between the artist and the technology. The screen layout and design, the interaction techniques and innovative input devices are the areas SGI and A|W see as creating the most problems today, and solving these will speed up and enlighten the creation process.

Many artists currently complain about the lack of flexibility in the operation of all 3D software. 'They want to experiment,' says Ryce, 'and half-an-hour later say, 'Well, that didn't work' and be able to revert back to where it was last at its best.' As the Maya software develops it is constantly incorporating multiple levels of 'undo' and 'redo' to allow this. Maya will also manage the simpler range of human transformations in an abstract way, so a character's walk can be controlled without having a detailed knowledge of hierarchical transformations.





A|W's technology provides an unmatched level of realism and detail, but only for Silicon Graphics

Project Maya could truly represent the synergy of the drawing board and the multitude of indisputable benefits offered by silicon. Looking at an artist working with light pens on a prototype plastic drawing board is a sobering experience – they sketch like 'normal' artists but can destroy, modify or re-create any wrong stroke, pixel or image as easily as traditional artists cross out their work and start again. This can only benefit games since the creativity, rather than technical acumen, governs.

Given the Project Maya vision, all may seem set for Alias|Wavefront's and Silicon Graphics' domination. But the success cannot be taken for granted with a Microsoft-owned SoftImage in the wings. To combat this threat SGI's hardware and software divisions are working to convince the end user its solution is the best. The battle will be fought over the usual computing issues of price, speed and functionality. As one developer said to A|W about *PowerAnimator*, 'We all know you have the most tools and the most functionality per tools, but can you please make them go a little faster?' Another concurred with the perfect ammunition for SoftImage: 'It's not that fast but you get used to it!'

Besides the impending presence of Autodesk's NT-powered *3D Studio Max* (see page 91), another large-scale threat to SGI/A|W comes from SoftImage in the form of its own 3D software, now available via *Windows NT* on a high-end PC. Microsoft claims the price/performance ratio for the PC is well ahead of what SGI can offer, but naturally A|W refute this. 'People are misconceived that NT is going to be cheaper and faster. It hasn't been proved. The Indy Thunder comes with a R5000 processor with all the software, and is cheaper than a comparable NT workstation.'





Some of the more elaborate film work incorporating A|W and SGI technology includes this intricate spaceship explosion

SoftImage still wins over A|W when it comes to specific animation tools, however. This is arguably the most crucial area for Alias|Wavefront to address, with future versions of *PowerAnimator* and Maya. If A|W can accelerate the rendering without quality loss, the path to domination is clear. But certainly, SoftImage and Microsoft will do their utmost to prevent this.

Despite A|W's huge popularity, kudos and success, its future still hangs in the balance. Taking on Microsoft at anything computer-related means accepting the inherent risk of extinction and oblivion. Looking at the A|W/SGI software aspiration, though, and seeing the talent and drive that exists within the company, it would be hard to visualise a graphical future without it. E

Landreth images

Chris Landreth's Oscar nominated short film that graced the cover of E24 is one the most stunning displays of computer graphics ever seen. The six minute film is a satire on the pretentious world of computer graphics. 'There are a lot of inside jokes about ultra-profound, brooding pieces done with computer animation over the years,' says Landreth. (for example, the character has no ears because the animator couldn't figure out how to do them). 'But beyond that I wanted to create a piece that featured complex, intelligent and believable characters – a demonstration of what is possible using our tools to synthesise human characters.'





From its mid eighties inception as an eye candy factory for the 16bit generation, Liverpool's Psygnosis has matured into a company clearly on the apex of the videogaming revolution. **Edge** tracked down the minds behind the mission

Project psynergy

All might be forgiven now Psygnosis has proved it can produce cutting-edge videogames, but for those who remember the titles that the company built its name upon, it's been a difficult fact to swallow.

Formed from the ashes of fallen 8bit computer game publisher, Imagine, Psygnosis was an early champion of the 16bit era. The Liverpool company, founded in 1983, forged a reputation on producing outstanding graphics. And as an industry joyfully pulled out of an outdated 8bit arena, the race was on to see who could lay the foundations for the 16bit market. In aesthetic and technical terms, Psygnosis led by a mile.

This pursuit of the more frivolous traits of videogaming might seem foolish by today's more exacting standards of how a videogame should be, but it sure worked. From the strikingly professional box artwork (by acclaimed fantasy artist, Roger Dean) for games such as *Barbarian* and *Aquaventura*, to the memorable parallax landscapes of infamous Amiga showcase, *Shadow of the Beast*, Psygnosis created a new look for computer gaming. For once the artwork on the box was backed up with a game that didn't look like some crude, garish mosaic. Computers finally had games with 'arcade quality' graphics, a term that would become a standard marketing tool for the years to come.

At the time, the industry's naive acceptance of such a vision was understandable. By the mid eighties, computers were badly lagging behind in the graphics stakes. 16bit technology had entered the arcades delivering rich, colourful and detailed graphics and players demanded this in the home. The fact that most Psygnosis' games at this point bore little more than mere surface gloss was irrelevant. They sold on the front end alone, and that's where most resources were clearly directed. In gameplay terms, many of Psygnosis' titles have crumbled under the weight of their own graphical ambition. Since the beginning, this has been as much a hardware issue as one about game design. As the lead platform of the early days of the 16bit market, the Atari ST offered no hardware support for sprites or scrolling, so many 16bit tours de force (such as the mouse-driven adventures *Barbarian* and *Obliterator*) failed due to their graphics-heavy, and hence, incredibly sluggish visuals. However, although it was clear that the games in question were markedly inferior to many 8bit titles that had appeared only a few years before, many players were simply happy that 'arcade quality' visuals had arrived at last.

Later endeavours such as the prerendered *Microcosm* merely amplified an existing problem. With fast 3D console technology still a way off, prerendered visuals spooled off CD (a technique pioneered by Psygnosis) was the only way to create moving 3D worlds with any degree of detail. However, it was also a technique that failed to deliver any degree of interactivity, luring the player into a false sense of immersion. Ironically, it was a game that eschewed the company's graphics-intensive philosophy (*Lemmings*, created by Scottish team, DMA Design) that went on to become its most successful and respected title.



Sony's acquisition of Psygnosis in 1993 marked a change of course for the Liverpudlian developers. Initially the Japanese company squandered Psygnosis' opportunities on a series of appalling movie conversions such as *Last Action Hero*, *Cliffhanger* and *Dracula*. So, with hindsight, it's difficult to see how such a successful design as *Wipeout* could have been conceived at all. Effectively, it was news of the PlayStation that facilitated a change in the company's creative direction. During the machine's gestation period, Psygnosis was in a better position than anyone to realise technology was on its way to generate impressive 3D in realtime. Paradoxically, just as it prepared to embrace another new wave of technology as it had done with the Amiga, experience enabled it to strike a balance, with *Wipeout*, between producing mind-blowing graphics and designing a playable videogame.

'There's definitely been a greater focus on the integrity of the products over the last few years or so,' reflects the company's MD of software



Photography by Martin Burton

Psygnosis has released over 100 titles since it started developing software in 1983. The company is based in Liverpool (HQ, top)

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publishing, **Nick Garnell**. '*Wipeout* was the first example of how, internally, we could set about building products. It became more than the sum of its parts.'

But Garnell doesn't underplay the importance of the 200-strong development team that has assembled since the Sony buy-out: 'We've got a very, very strong in-house team, no doubt helped along by the fact that Sony were involved, but we've also got a lot of talented external developers, too. All we intend to do now is capitalise on our strengths.'

The success of *Wipeout* (the flawed *Destruction Derby* sold more copies, probably due to its wider appeal), coupled with Sony's obvious influence and financial clout, meant that Psygnosis immediately touted the PlayStation as its lead development platform, expressing little interest in developing for other consoles. Things are already changing, though. Psygnosis is now a fully independent publisher that develops games for release across all formats. The Saturn already has a reasonable version of *Wipeout* and other titles are on the way to the Sega console soon. Titles, that in Sony's view, 'have had their day on the PlayStation.'



Whether this change of focus is down to the fact that the PlayStation has already surrendered some of its glamour is debatable. The lack of any major increases in performance in most new PlayStation software indicates that the machine's peak could have been reached too early – certainly good for the machine's launch period, but not what people want to hear now. Technical director, **Dominic Mallinson**, isn't wholly convinced that the PlayStation is already running at full whack: 'You hear a lot about pushing the Saturn. And that, to a certain extent, is true, because a lot of people were able to push the PlayStation further, quicker. However, there is still a fair amount of untapped potential in the machine.'

As far as other formats are concerned, internally at Psygnosis there is a certain animosity towards the Saturn, despite its recent redemption with Sega's own in-house titles. Mallinson concedes. 'We're fairly early in our Saturn development cycle, because basically it's difficult to work with. You spend a lot of time getting bogged down with hardware details when you'd rather be programming a game – it's not the favourite machine here.'

Despite this, the company realises the benefit of having its games on as many formats as possible, so it seems likely that most PlayStation and PC titles developed by Psygnosis will make the journey to Sega's machine.

Casting its eye over the next wave of console technology, Psygnosis is even hopeful that Sony arch rival, Nintendo, will grant the company a license to develop for the Nintendo64. 'Within the development side of the company, we're serious about it – it's likely to be one of the volume platforms. At launch it will almost certainly be the most powerful console. But there are still questions being raised on the publishing side – we have to weigh up the costs of the software delivery medium against estimated success of the product.' Mallinson is also hopeful about Matsushita and M2, but the fact that neither Matsushita or 3DO has finalised a proper development program for the format means the project is still very much up in the air. The delay bringing the M2 hardware to market will, in Mallinson's eyes, mean, 'there will be other new pieces of powerful kit in direct competition. It certainly won't have the market to itself.'

Psygnosis' willingness to support as many platforms as possible embraces a long-term strategy which predicts an increasing synergy between the technology powering consoles, PCs and arcades. It's a belief shared by many, and is based around the theory that the future of 3D technology lies within scalable environments with multiple chips running in parallel. Sega has this setup in its Lockheed Martin-powered Model 3 arcade board. 3D accelerator experts such as 3Dfx (see page 10) and VideoLogic plan to incorporate their technology in arcade boards as well as PCs, and console manufacturers simply want the compatibility.

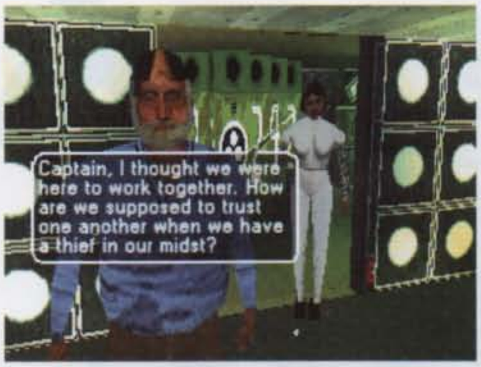
It'll all be scalable 3D. You can see this clearly with companies such as 3Dfx, VideoLogic, and Namco

Dominic Mallinson, technical director, Psygnosis

'It'll all be scalable 3D,' predicts Mallinson. 'You can see this clearly with companies such as 3Dfx, VideoLogic, Namco and Sega. Basically everyone's going the same way – there are a number of companies we're talking to about arcade projects.' Probably keen to forget the dismal performance of Sunsoft's *Lemmings* coin-op that disappeared without trace, Psygnosis now plans to look into developing a coin-op-based project in the next 12 to 18 months. In contrast to efforts by Capcom and Namco, it's far more likely to be a highly-specced parallel-chip machine instead of a low-end PlayStation-based unit.

Central to this broad technology strategy is the increased global prominence of the PC coupled with the plethora of graphics acceleration hardware on the horizon. As this technology becomes viable over the coming year, Psygnosis now sees its development focus shifting

Sentient





As games become more visually complex, developments are taking place not necessarily as immediately noticeable in the gamesplaying experience. *Sentient* is one case in point – as well as providing a striking game environment, it features complex AI interaction sequences with the potential to offer a truly new style of game.

Ollie Wright, *Sentient*'s programmer, describes the game scenario: 'You play a character sent in as a medical specialist to a space station orbiting the sun, because it's having trouble with radiation sickness. Strange solar flares have been colliding with the station, and the game turns into a mystery – basically, you have to discover what's going on. Lots of things unfold as the game progresses. The station is mining exotic particles from the sun and there's lots of intrigue concerning these – some people think they're a power source, while others have different beliefs. The real reason becomes clear as the game progresses...'

One of *Sentient*'s particular charms is in its realistic approach to characters – they will talk to each other even when you aren't around, they all have opinions about each other, and will react differently depending on how you have treated them in the past. All of the NPCs (non-player characters) have assigned jobs, which they independently attend to during the game, but their routine behaviour must be co-ordinated to further the story. 'We're having to combine the characters' normal behaviour with scripted behaviour so we can create situations that are triggered by any number of means,' Wright reveals. 'It could be simply entering a room, for example, or it could be a sequence triggering off events.'

Most of the solid 3D characters (of which there are 64, spread over five different categories) were designed from top to toe by **Christian Furr**, whose credits outside videogames include being the youngest ever artist to be officially commissioned to paint a portrait of Her Majesty the Queen. Furr drew from his experience in traditional fine art work to give each character a distinctive look. What's more, each NPC has a range of expressions that change depending on mood, which further captures a feeling of a living, breathing game world.



***Sentient*'s lead coder, Ollie Wright (left), and graphic artist, Paul Holders**

Perhaps the hardest to categorise of all Psygnosis' current projects, *Sentient* is certainly going to be a title to watch. It's set to be released first on PlayStation and follow onto the PC shortly after, but 'at the moment it's too big for the PlayStation's two megabytes,' according to a rather perplexed-looking Wright. 'But we're working on that...'

The Fallen

Despite Sensory Deceptions' freshness of face, the ambition of its first project would put the fear into hardened development veterans. 'The idea of the game in a nutshell is to survive; the structure is totally non-linear. Whereas other games set up a level system with predefined targets, ours is not like that – you dictate what you want to do. You have the framework of the game to go by, but once you've got a feel for how everything works, it's up to you to,' says **Dave Anthony**, lead programmer and MD of the company.

The plot running behind this freeform approach concerns the Earth 30 years into the future. A criminal group known as The Angels are supplying the public with a bliss-inducing electronic implant known as Angelica, which has the eventual, unfortunate, side effect of rendering its participants insane. A law enforcement agency called The Lords have been assigned to combat the supply and use of Angelica, while another terrorist group called RAIST further complicates matters for the cities' populace.

'We've set up a 3D world which has characters, buildings, objects and vehicles in it,' says Anthony. 'We plonk the player, as one of these characters, into the world, while all the other characters are busy going about their business. You can do just about anything in this world – if it's going on between other characters, you can join in.'



Men on a mission: Sensory's Pete Smith (left) and Dave Anthony (lead coder)

Sensory's **Pete Smith** picks up the baton: 'You can get as involved in other people's lives as you want, from simply passing on information to someone to physically murdering them. After a murder, of course, there's a lot of things that go on from an information point of view – you might want to tell someone about it if you've witnessed it, or grass someone up for money. And everything that happens has knock-on effects with everyone.'

Accruing cash will be high on the agenda, and trading between characters will feature heavily. 'Everything that's sold can be used,' says Antony. 'It's not like you're going, "Oh yeah, I'll go and buy some minerals for six quid," or whatever; instead you're buying, say, six rocket launchers – and if you're walking down the street and want to pull one out and blow someone's head off, you can.'

Interaction between characters is another important area. 'We've created a sequence of menus so you can build proper sentences,' says Anthony. 'If you want to ask how much something costs you construct the sentence together from a small, considered list. For this kind of interaction we had to write an intelligent parser that could correctly handle grammar – especially if the game is going to work in a foreign language – in itself a huge task.'

The team are confident they can pull off such a potentially groundbreaking game. 'Before they've seen the game, everyone looks at the specifications and comments on our aspirations. But every time we actually demo it, people go away thinking...' Smith interjects: 'Well, we haven't had one single negative response about the game.'







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Psyview

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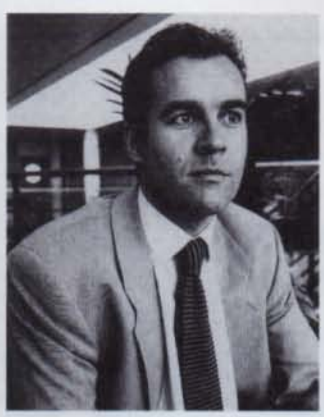


Dominic Mallinson, technical director at Psygnosis, keeps a constant eye on the next generation technology agenda

towards the PC, with its current lead platform, the PlayStation, following closely behind. 'The PC affords us more flexibility with games,' admits Mallinson. 'Being a console, the PlayStation does have some limitations and a lot of our games are now going to appear on the PC first. There's no reason for that other than the PC finally becoming a games machine.'

This logic is grounded in Psygnosis' realisation that the titles it starts now won't be completed for around another 18 months. By then, the PC should have gained enough of a foothold in the 3D market to compete favourably with console technology. This, coupled with the machine's huge amounts of RAM, good video playback and unrivalled connectivity, should ensure that the PC becomes the dominant force in videogaming. 'It's really a change of emphasis in lead platform rather than support,' Mallinson continues. 'Our top two platforms are PC and PlayStation and it's just a question of which machine we lead on. At the moment it's still PlayStation, but I think we'll see it become the PC more and more.'

The PC 3D market is an area Psygnosis is taking very seriously. Currently courting several of the bigger players, including 3Dfx, VideoLogic, and ATI, the company realises this splintered market will probably become dominated by three to four major companies and will be fought mainly on price and performance. Mallinson anticipates one of the main contenders, NEC's VideoLogic chipset, as 'a bit of an enthusiast's product' and expects lower-cost cards such as S3's Virge and ATI's 3D Rage to support the lower-end of the PC market. Psygnosis has clearly stated an on-going commitment to support the majority of current and forthcoming 3D technology. However, an early demo of 3Dfx's technology was known to have excited internal techheads.



Where the confusion will arise is in the support of the individual cards. According to Mallinson it will be a two-tier objective. With Microsoft's *Direct3D* still incomplete, Psygnosis sees emphasis initially being placed on specific deals with hardware manufacturers to get product out there for certain cards, mirroring efforts by companies supporting early arrivals such as the nVidia and 3D Blaster. After this, Mallinson hopes it'll become clear who the top three or four players are – 'some will be high-end quality products, some will be cheapos'.

Psygnosis does foresee Microsoft's *Direct3D* API taking over at some point, though, and then the company will move to specifically tune titles for a selected number of cards. 'We'll always pick one with a high performance and quality as being the show-off board,' says Mallinson, 'despite the fact that such technology may only represent a small market and there may not be that many users out there.' In this case, most of the code will be identical for each card, but things like the amount of texture RAM available, the resolutions that are supported and features such as anti-aliasing, will be supported individually to maximise each card's potential. 'It's a question of tuning all those features to best exploit the technology. Below this will be a lowest common denominator of *Direct3D*, which will support all *Direct3D* boards. If there are a lot of other players out there our titles will still work on them, but they may not be quite so optimised as the others.'

Whether Psygnosis is developing software for the internet, PlayStation, PC or arcade, Nick Garnell sees the means of delivery or perennial format war as 'irrelevant'. 'We don't really care whether we're writing product for a particular home videogames system, arcade machine or online environment via the PC. As long as the technology allows it, the point is to come up with new ideas and to be innovative about the software we produce.'

It's clear that, despite Sony's marriage to Psygnosis, the company now has a free reign to produce only those titles it wants to. With *Tenka*, *The Fallen*, *Sentient* and *Wipeout 2097* all covering different bases, it's a plan that seems assured to deliver some bold and varied interactive entertainment. 'We've essentially set out what products we want to do,' assures Garnell. 'There's been no direct control from Sony, only influence. We're not going to try and cover every single genre. If you deliberately set out to fill a hole in a software catalogue and say, "We ought to have a beat 'em up, or a shoot 'em up," you're probably not going to get it right. I think the creative spark has to come first.'

If you deliberately set out to fill a hole in a software catalogue, you're probably not going to get it right

Nick Garnell, MD of software publishing, Psygnosis

Psygnosis' understanding of the needs of gamesplayers, as well as those early adopters simply looking for their next graphical kick, places it in a position to create games which are as well-designed as anything Japan can muster, and as diverse as that for which the UK industry used to be famous. The company's next wave of videogaming should be an interesting one to ride.

Tenka







Tenka, the working title of Psygnosis' forthcoming first-person shoot 'em up, looks destined to be rivalled only by *Quake* as the year's most anticipated game in this expanding genre. The fruit of over two years in development, *Tenka*'s 3D engine is complete and running smoothly, with levels designed in a distinctly non-*Doom* style, and characters rendered in full polygon form.

Psygnosis claims *Tenka* will offer the most flexible player character ever seen in a game of this style: his abilities range from walking to running, jumping, sliding, side-stepping and looking up and down, and the control interface is being designed with the emphasis on ease of use.

And, unlike games like *Doom*, where enemies line up to form so much cannon fodder, *Tenka*'s denizens have very significant roles in the game. 'Certain enemies have specific orders within their environment – by killing them you can take their orders, giving you access to certain areas,' reveals **Paul Hilton**, chief designer. 'Maybe one's been told to shoot down to the construction yard where all these bionoids are being generated, and if you take him out you're able to go down there yourself and control construction, while others will just give you a security level which gives you access to things like gun power-ups and switches, and the little enemies, the one-shot wonders that just drop dead without much of a fight, won't give up anything.'

The finished game will offer 21 levels (two of which will be initially hidden) set over nine distinctly different graphical styles. The team promises multi-directional conveyor-belt floors, destructible windows, sentry guns and numerous spot graphical effects such as steam. 'We're certainly up there with *Quake* and *Duke Nuke 'Em* in terms of complexity,' Hilton claims. 'We've got 3D multi-directional mazes, moving trip wires, massive crushers... We intend to just squeeze in as many gameplay features that we can possibly fit in there.'

Graphically, *Tenka* certainly has the edge over almost every similarly-styled game doing the rounds. Its solid 3D characters make the experience significantly more realistic than the flat 2D bitmaps of the likes of *Duke Nuke 'Em*. Hilton is equally enthusiastic about *Tenka*'s use of lighting effects: 'With the lighting and shadows we're using we can hide enemies and make them jump out or fall down onto the player – it can get really scary, especially with the ProLogic sound.'



Psygnosis' Paul Hilton (centre) has his work cut out in bettering id software's *Quake*

Despite the game's myriad technical advances, Hilton is, somewhat refreshingly, still able to look upon it at its most grassroots level: 'At the end of the day there's nothing better than running around killing things,' he laughs.

The City of Lost Children

The 3D virtual world created by Infogrames in *Alone In The Dark* opened up an entirely new way for developers to deliver gaming universes. Although recently it has been imitated successfully by Capcom with *Resident Evil*, few developers have a better grasp on the artistic value of the genre as Psygnosis' French development arm, the team behind *The City of Lost Children*.

Based on the acclaimed Caro and Jeunet Brothers' film of the same name, *City* is the story of a little girl looking for her lost friends. Through her travels she encounters many bizarre twisted personalities, some of whom are helpful, and some of whom are diabolically harmful.

Unlike many games that put the player in the shoes of a gun-toting maniac, *City* casts you in the role of the relatively helpless girl. Situations that would seem comical to a more physically endowed character are therefore moments of intense danger to



this small child. The resulting gameplay offers a novel approach that, coupled with the game's aesthetic value, make this one of Psygnosis most interesting releases set for 1996.



Zombieville

Psygnosis' other 3D adventure for 1996 sees you adopting the persona of Matthew Black, chief investigative reporter for The Daily News. Upon receiving a tip-off concerning a failed secret military project, you begin an investigation which takes you to an abandoned research site. A couple of months ago the site was redesignated to a different type of research, since which an aged local man has gone missing and the entire area cordoned off.



This promising storyline manifests in game form as realtime polygon characters set against a series of prerendered backdrops. *Zombieville*'s gameplay will contain numerous puzzle-type challenges each having counterpoints: for every action the player takes there will be a good reason *not* to undertake it.

Backed up by a script by professional author, **Mary Gentle**, a voiceover by Yank comedian, **Greg Proops**, and screen resolutions running up to 640x400 in SVGA, *Zombieville* bears all the quality hallmarks that Psygnosis has striven so hard to adopt in recent years. Whether the components come together to form as convincing a whole to rival the likes of Capcom's similarly-themed *Resident Evil* remains to be seen.



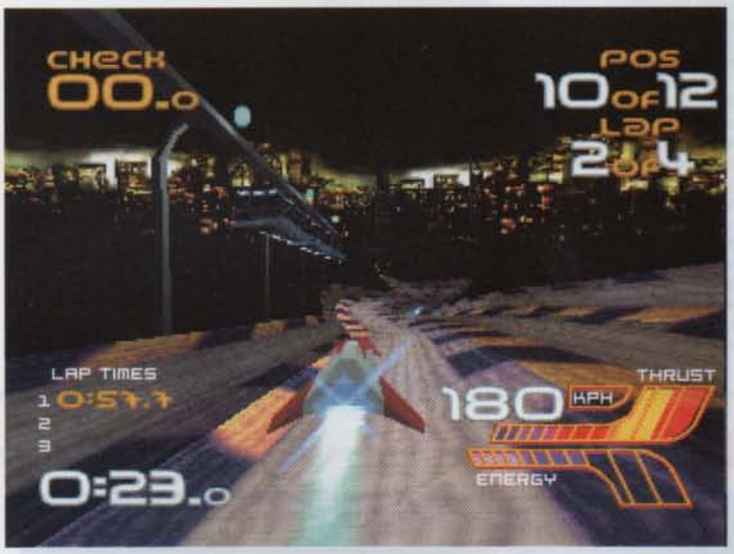
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Wipeout 2097



Photography by Jude Edginton



Visually, *Wipeout 2097* has an immediate edge over its predecessor with its scenery animation (moving monorail, main). Nick Burcombe (top, left)

Despite the machine's Japanese origins – and, indeed, the efforts of Namco with its peerless translation of *Ridge Racer* – it was Psygnosis that squeezed the most breathtaking visuals out of the PlayStation during its first year of life, with *Wipeout*.

Given the first game's success, a sequel was inevitable, and it's currently taking shape under the guise of *Wipeout 2097*, not simply *Wipeout 2* – Psygnosis believes that monicker to be too predictable, something the *Wipeout* branding aspires to avoid.

The chief difference in the follow-up appears to be its difficulty setting, as **Nick Burcombe**, designer of both *Wipeout* and *2097*, explains: 'The major change is to address more people with this one. Not really with the concept – that stays the same; it's still a hover-based racing game with weapons – but the original *was* too hard: winning three laps in first place was a goal a little bit beyond a lot of people.

'People had taken hold of the idea that they loved the music, they loved the speed, they loved its style, they just seemed to get a bit frustrated that they didn't make any progress at first...'

'It was a simple case of getting people to change their thinking when playing a game,' reckons **Glen O'Connell**, Psygnosis' PR executive. 'They couldn't relate to another game of this type, as nobody has ever succeeded with the concept before. People played it like, say, *Ridge Racer*, and then got confused when they couldn't get anywhere. We've solved this problem somewhat in the follow-up by radically changing the structure of the game, without alienating fans of the original.'

Nick agrees: 'So many people couldn't get their heads around the fact that they were actually flying, not just driving a car. You couldn't just point the craft in a direction like a car and expect it to slide round into the corner – it's got this nice, weighty feel to it. And it *does* take practice; it's like any of those games with gravity and inertia. AS with *Thrust*, for example, the first time you play it's like, bang, straight into the mountain.'

As well as easing the player into the action more gently this time around, the *2097* team have had a a bit of a rethink about the weapons and pick-ups that played such an important part in the original. 'There was no particular emphasis on where the weapons grids were placed; there was nothing special about them because after using one you could just pick up another in a couple of seconds,' says Nick. 'So they're going to be more strategically placed and they're going to have a much bigger impact because each ship has a damage level which you'll need to replenish.

'It won't be like in, say, *Destruction Derby* or something like that, though. In some games, the worse you do, the harder it gets to play, because when you get damaged it starts affecting the controls – we're not going to be doing that. But if you're down to a certain damage level you'll be able to pick up energy – by visiting a kind of pit lane like in *F-Zero*.'

As well as eight new circuits and 11 weapons in total, there are now four racing speeds, the slowest of which, Vector, has simplistic circuits and enemies with toned-down hostility; the hardest of which is significantly faster than the original's Rapier class. Enemy craft, of which there will be up to 15 on-track at any one time, have improved artificial intelligence, and collisions between crafts are now more accurate than before.

Though *2097* retains what is essentially the same 3D engine as the original (which Psygnosis insists is still the most powerful one currently in existence on the PlayStation), graphically there are numerous enhancements, chiefly in scenery animation and the appearance of the new weapon effects. By re-using the original engine the team has been able to



New Designers Republic imagery (above) will again play a large part in the sequel, with design help from Nicky Caruss Westcott (right in photo, top)







***2097*'s big improvements are not visually apparent; it's gameplay that has been given an overhaul**

focus upon tightening up factors such as attention to detail without spending valuable time on what it refers to as 'non-game-related problem solving'.

As well as *Wipeout*'s graphical excesses, it was, of course, lauded for its aural content, too. Glen believes this aspect added to the game's uniqueness: 'You couldn't simply throw those bands [Chemical Brothers, Orbital, etc.] into another game and expect it to be as successful – even if you had the Designers Republic imagery *and* the music in the game, in fact – because *Wipeout* was about a whole concept. People will try and copy us, though, which is flattering.'

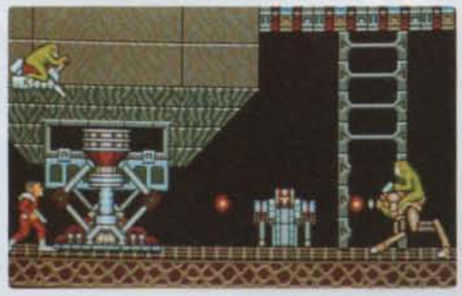
The music of *Wipeout 2097* is certainly being paid a great deal of attention. 'I'm off down to London next weekend to finalise a deal,' says Nick. 'We're probably going to be using all named artists in conjunction with a few major labels. The separate compilation album is going to have a bit more credibility than the last one, which didn't have much to do with the game except for the Orbital track – which was unfortunate, really. I'd like the music to go out and promote the game separately and the game to do the same for the music. The difference now is that people are coming to us and saying, "We want to do this and we want to do that," whereas before we approached them.'

Such a situation is hardly surprising, as Glen points out: 'The advantage for the music industry is that there are around half-a-million people who've played *Wipeout* in Europe, and each one has therefore heard the Chemical Brothers' track. If you're a credible dance label, yet 50,000 12-inches is a massive hit for you, there's an immediate benefit. And we're talking about playing music through stereo televisions, not PC speakers. And then you have people who run their PlayStations directly through their stereos...'

The inclusion of only dance tracks certainly fits the tone of the *Wipeout* brand, but what about gamers who simply don't appreciate the scene? 'There might well be people who aren't going to like the music we use... so we'll do a platform game with Oasis in,' chuckles Nick.

The team reckons they're around 40% into the project graphically, 50% in coding terms, 90% in design, and 0% in terms of tweaking! The latter aspect is, of course, where many games are made or broken, and if the team can achieve its specific goals in this department, *Wipeout 2097* could become an even bigger hit than its precursor.

From little acorns...





***Obliterator* and *Barbarian* offered pretty graphics, but were spoilt by ill-conceived gameplay**

Psygnosis' game resumé is a chequered one, featuring titles ranging from the primitively-presented yet highly playable, to the graphically-swollen but ultimately shallow. These two extremes have, paradoxically, both proved markedly successful, *Lemmings* – licensed to practically every modern-day format in existence – arguably made the company its fortune and *Shadow Of The Beast* set a standard in graphics that alone was to force many an Amiga owner to part with hard-earned cash.

Its early endeavours were clumsy affairs, hampered by poorly-realised interfaces and, therefore, weak playability. But, slowly, Psygnosis has learned to strike a balance between style and content, as thousands of *Wipeout* fans would attest.

The company's choice to encourage partnership with external development teams has certainly borne a significant amount of fruit. *Destruction Derby*, created by Reflections, was, technically speaking, one of the most impressive games to hit the PlayStation while it was finding its feet, while older titles such as *Leander*, an Amiga title by Traveller's Tales, was one of the first western games to successfully ape Japanese presentation values.

A combination of triple-A grade in-house development coupled with choice external input represents the way forward for Psygnosis. If the company can continue its current trend, success seems inevitable.



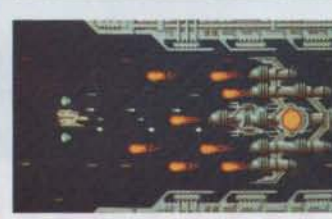
DMA's *Lemmings* (above), one of the most popular videogames of all time, is the game that made Psygnosis. *Shadow of the Beast* (right) was a technical tour de force











Psygnosis' mixed bag (clockwise, from top left): Traveller's Tales' console-style Amiga platform game, *Leander* (1992), the depressingly tawdry movie license, *Dracula* (1993), the *R-Type*-inspired *Menace* (1990), and *Blood Money* (1990) – one of a number of games to use Psygnosis' distinct look

Resident Evil

Format:	PlayStation
Publisher:	Capcom
Developer:	In-house
Price:	¥5,800 (£40)
Release:	Out now (Japan & US) August (UK)
Supplier:	Mega Games 0171 372 4356







***Evil* has its fair share of shock entrances – the doberman smashes through (above) and the spider drops to advance (top right). Sharks are harmless once the water is drained (right)**

The fervid anticipation that has swelled around *Resident Evil* (known as *Biohazard* in Japan) has mixed implications for the PlayStation. Anything that generates this sort of word is surely welcome and yet at the same time there is a neediness to the enthusiasm that should give Sony pause. The PlayStation had a weak Christmas line-up and since then, despite a handful of worthy efforts, there's been a steady dribble of mediocrity. With Sega biting back and the N64 now almost close enough to be worth holding onto your cash for, Sony needs to deliver some pretty hot stuff pretty damn soon if it's to maintain momentum. Fortunately for it, and for gamers across the globe, *Resident Evil* delivers in spades.

Doubtless the reader will already be glancing agape at the screenshots that accompany this review and, let it be known, what you see is what you get. *Resident Evil* is *Alone in the Dark* directed by George A Romero with the design sensibilities of *Myst*. An enormous, implausibly beautiful arcade adventure, designed with the express purpose of frightening the player to the point of nappy-changing while inviting them to commit acts of unbridled violence against the enemy. You wouldn't ask for more if you rubbed your PlayStation and produced the game genie himself.

To enter Capcom's 'world of survival horror', the player takes control of one of two soldiers, Chris Redfield or Jill Valentine, both members of STARS (Special Tactics and Rescue Services) an SAS-type unit who become stranded in a vast mansion while investigating reports of genetic mutations roaming the countryside. Two things become immediately apparent on arrival: the





Realtime cut-scenes permeate the action with episodes providing suspense, mystery and intimidation. Some of this imagery is revolting





One of the more satisfying elements of *Resident Evil* is the barbaric annihilation of the ever-advancing zombies. Although decapitating is gratifying, the one-shot grenade launcher (above) is more efficient





Giant cobras are infrequent, but certainly terrifying and necessary. A new exit is created by this beast's entrance, for example (top)

source of these abominations of nature is the house itself and the only way out is to solve the many traps and conundrums that obstruct your progress and blow away anything that moves. The scenario is familiar enough. The implementation is far from it.

Capcom has truly performed a miracle with this game. Chris and Jill, like all the 'characters' in *Resident Evil*, are fully texture-mapped, light-sourced polygons operating in realtime within lavish prerendered backgrounds. The effect is startling. Such is the sophistication of the light-sourcing that wherever your character is and however flamboyant the light and shadow effects of the scenery are, you never look incongruous. Which contrasts sharply with, say, Infogrames' recent *Time Gate*, where the polygon figures look hopelessly inadequate even against backgrounds that boast a fraction of the detail of *Resident Evil*'s (words alone fail to do justice to the fanatical richness of *Resident Evil*'s art design, where even the wallpaper and carpets warrant admiring scrutiny). Moreover, the polygon animation is splendidly fluid and realistic, allowing for precise, confident control of the player character and alarmingly believable movement on the part of your foes, be they zombies, werewolves or Fiat Cinquecento-sized spiders.

Progressing through the mansion and its environs is a tense and exhausting business. Capcom hasn't coined this new genre 'survival horror' for nothing. Half the puzzles, which range from the moronic to worthy of MENSA members, yield the simplest of all possible rewards: ammunition. There's been nothing in other games to compare to the panic and despair that you feel as you hammer shot after shot into an advancing zombie, taking off his arm and half his leg as he lumbers forward, only to hear the dull click of an empty service revolver magazine. Fortunately, as well as increasingly appalling creatures (wait till you get a load of the shark), exploration brings some hefty guns including a shotgun and a bazooka. 'So what are you gonna do now, huh?', you cry triumphantly as chunks of smoking zombie spatter the room.

Everything in *Resident Evil* is geared towards suspense: the skewed camera angles, the haunting strains of the soundtrack, the fact that you can run forwards but only retreat in painfully slow steps. In fact, the only blemish on an otherwise stainless product (apart from some acting in the cut-away sequences to make the cast of Hollyoaks blush) is the difficulty level. Suspenseful though it may be, it can be all too easy to loose off a couple of rash shots in an awkward position only to find yourself with your trousers round your ankles, your neck in the mouth of a flesh-eating ghoul, and your last save point about six rabid wolves and a snake away. Still, *Resident Evil* was never destined for the faint of heart. Where it is destined for, however, is the PlayStation pantheon. With the notable exception of *T2*, *Resident Evil* is the best yet. E

Edge rating: **Nine out of ten**





When on this balcony, the statue can be pushed over the edge to kill the zombie below and reveal a jewel



Some of the deaths are incredibly detailed and spectacular. Here you are crushed by a boulder





Rather than allowing an unlimited number of objects to be carried, *Resident Evil* restricts the amount to eight. However, trunks (left) can be used to store and collect useful items

Panzer Dragoon Zwei

Format: Saturn
Publisher: Sega
Developer: In-house
Price: ¥5,800 (£45)
Release: Out now (Jap) May 10 (UK)



It's only when the bosses close in that you can appreciate their size. This enormous attacker is one of the smaller end of level foes







Despite an all too familiar system of predefined routes through the levels. *Panzer Dragoon* arrived to massive critical acclaim when released in Japan early last year. Linear though it was, the attention to detail, cinematic camera work and almost theatrically choreographed encounters with the enemies proved beyond any reasonable doubt that the shoot 'em up, when handled properly, could ably showcase the 3D potential of Sega's 32bit machine.

In producing a sequel, Sega have furthered the case for the defence of the technical prowess of the Saturn while at the same time failing to deliver anything very surprising. *Panzer Dragoon Zwei* is better, but curiously, isn't worthy of the praise lavished on its predecessor.

The visuals not only come up to scratch but exceed expectations in many ways. The prerendered sections are as wonderfully scripted as those found in the first release and really set the scene for the game to follow. As before, the swooping camera views lead you seamlessly into the action. The difference in quality between the prerendered scenes and the in-game graphics is obvious, but because the handling of the camera angles is so similar the two fit together perfectly.

The gameplay has also improved. As before, the action is very carefully paced, delivering just the right amount of sedate, scene-setting sections which introduce you to the environment of a new level before plunging you into a frantic (but superbly structured) battle with the waves of enemies. In addition you can now, to a certain degree, choose your route through the levels. Much of the action rolls by automatically as you concentrate on the job of combat, but certain sections will clearly split and, depending on your positioning at the time, you can deviate in different directions. This, of course, is welcome, but the process is so slickly executed that you often don't realise you've taken a different route until you meet some new enemies. Ultimately, though, despite the occasional and minor meanderings, you follow a largely linear route until confronting a boss at the end of each level.

Battles are fought, and won or lost, in much the same way as those in the first game. The control mechanism remains unchanged as far as the switchable, four-view, radar-based system goes. It worked brilliantly the first time around and so, sensibly, it has been left intact. For the purposes of differentiation, though, the weapons have been







The camera angle is constantly shifting as wave after wave of attackers slide in from every angle. The smoothness of movement and graphical detail is incredible

pumped up slightly. As well as the straightforward laser fire and targeting options there's also a tremendous smart bomb. An additional power bar just above the energy bar builds up as hits are scored. When you hit the smart bomb button all hell breaks loose on screen as every bit of laser fire at your command is unleashed at the enemy. Unusually, this isn't a passive attack to be merely witnessed until it's all over. Even when the smart bomb is going off, the crosshair has to remain targeted on the enemy if any attacks are going to have the desired effect. The result, while not adding a great deal of strategy, does present the player with the extra need to decide when and where to use this fire power. To make things even more interesting, some of the bosses are able to resist targeted attacks. In these instances the player has to first recognise this and then switch tactics to using laser fire alone, stepping up their evasive action accordingly.

But all in *Panzer Dragoon*'s garden is not rosy. As is so often the case with spectacular, visually stunning games, longevity is a real problem. *Panzer Dragoon Zwei* has more complications than being simply too easy. In truth, there are many sections which present a fairly major challenge. Also the levels, because of their grand visual scale, give the appearance of being huge. But there are only six of them plus an additional single boss level at the end. And regardless of how epic it seems, it is possible to see the game through from beginning to end within two hours. There is, of course, the option to go back through and try to seek out a few of the alternative routes, but by this time most of the magic has already been discovered so you're left feeling like you're merely trying to swab the remains of the gravy off the plate with a piece of bread. **Edge** has been assured that the UK version has been tweaked (the energy bar has been altered) to make the game tougher, and while this will improve things, it won't really enhance the scope of the challenge. It almost seems like tying one hand behind your back to increase the challenge.

There will be, without doubt, a band of loyal *Panzer* fans who will ensure the sequel's place at the top of the charts, and in truth while it lasts, *Panzer Dragoon Zwei* provides an amazing experience. But no matter how much respect you have for its technical and artistic achievements, it's extremely hard to forgive the fact that it's all over so very quickly.



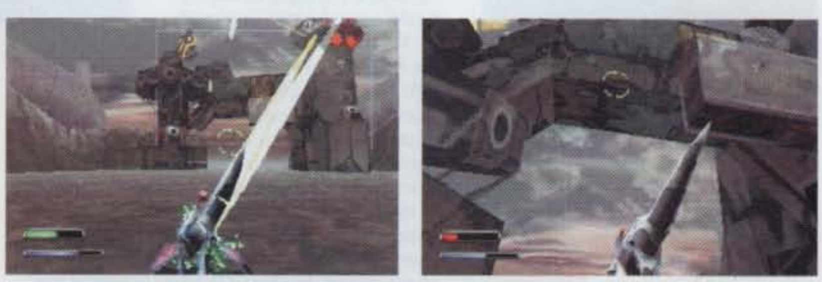
The level shown here takes place under a dense canopy of vibrant green trees. At this point the game is shifting an unbelievable amount of scenery with little discernible effort



When caught in a situation like this (low energy on the lower bar) it's time to unleash the smart bomb (represented by the top bar)



Edge rating: Seven out of ten



A multiple targeting being carried out (left). It's possible to target and unleash your laser on up to eight separate enemies at once or concentrate all the shots on one enemy

Tekken 2







In *Tekken 2*, light-sourcing replaces Gouraud shading. Hence, angular fighters, realistic shadows and some amazing lighting effects. Gouraud is not missed

Format:	PlayStation
Publisher:	Namco
Developer:	In-house
Price:	¥5,800 (£40)
Release:	Out now (Japan)

For a long time, *Tekken* was not only the benchmark PlayStation title, it was the epitome of 32bit gaming. Arguably, *Virtua Fighter 2* took over that role last year, stealing some glory for the Saturn, but now, just when it looked as though Namco was losing its position of importance in the PlayStation world, *Tekken 2* has taken up the gauntlet. Offering new moves, new backgrounds, enhanced gameplay and, perhaps most importantly, a staggering 25 characters, this game is, quite simply, astonishing.

In terms of arcade accuracy, *Tekken 2* has the edge on *VF2*. As with the original game (in NTSC, at least), *T2* is as visually impressive as its arcade parent, and benefits from a further, comprehensive range of gaming options. Amongst the usual team battle, vs and arcade modes, lurks the survival mode (where the player must face a series of computer opponents without energy bar refresh) and the brilliantly helpful practice mode. In the latter, the player can choose any of the available fighters and try out moves for an unlimited amount of time against a dummy opponent, which certainly beats putting the game in twoplayer mode and having to constantly fiddle around with two joypads.



Visually, *Tekken 2* is one of the first true second-generation 32bit games. The fighters are big, beautifully designed and charismatic, their polygon structures rarely submitting to the usual glitch and flutter marring fighting games in the past. Most notably, each character has a new angular appearance – a result of the designers' decision to generally abandon Gouraud shading so that more advanced light-sourcing could be employed. It may hark back to *Virtua Fighter*, but far from being a retreat, the self-consciously clean and stylised look is remarkably effective.

In any case, the new light sourcing more than makes up for the lack of Gouraud-shading (often an arbitrary resource at the best of times). Characters have more believable depth and solidity due to the shadowing cast on their bodies and the ground beneath them as they move. Furthermore, impacts are accompanied by brilliant flashes of light which explode momentarily around limbs, accentuating the sense of contact.

Of the seven new characters, some are destined for classic status. Lei, for example, a swaggering Hong Kong cop in flares, white shirt and gun holster, combines the histrionic Chinese martial arts of Jackie Chan with the exuberant visual style of a John Woo hero. He can also play dead – a unique ability which is backed up with a series of devastating surprise attacks.

Baek, a Korean pitfighter, uses pure Tae Kwon Do to form a deadly arsenal of balletic kicks, thrillingly effective when performed in combo. Equally entertaining in the kicking stakes is





Lei's chest kick throw (top) propels Jun to the ground. Devil sends Law flying with a simple kick (above)



The Devil (top) and Angel (above) have a laser which leaves opponents slightly frazzled









In arcade mode, a hidden option allows the player to fight in a stunning first-person view, the player's selected character appearing as a wireframe. The camera pans out for throws (above)

Bruce Irvin, the American, Thai-style kickboxer kitted out in boxer shorts, mohican and an interesting range of tattoos. Bruce, one of the more visually threatening characters and totally authentic in terms of poise and stature, combines sharp, quick jabs with damaging long range and brutal close contact kicks. Both of these fighters appear as sub-bosses.

On the more bizarre front, arcade dwellers will recognise the series of animal contenders *Tekken 2* offers, including Kuma the huge polar bear, Roger the kangaroo and Alex the lizard. Interestingly, they all fight as you imagine they should, each employing some marvellous species-specific moves (Kuma's devastating bear hug, for example, devours a whopping 70 points of damage).

The old characters have all been updated in terms of dress, combat repertoire and sometimes position within the game. Heihachi, winner of the first tournament and since displaced by his son Kazuya, is now one of the ten initially-selectable characters, boasting a range of new moves (including an awesome back-breaking throw). Meanwhile, Kazuya, the hero of *Tekken*, has converted to the darkside and becomes the penultimate boss - one place below the sinister Devil, a visually stunning demon with wings, cloven hooves and devastating laser.



On the periphery, the backgrounds remain essentially 2D backdrops fixed to 3D texture-mapped floors. However, all are perfectly atmospheric and many almost photographic in their detail and quality (Baek's Shaolin Temple and Bruce's panoramic Death Valley being notable specimens). They also benefit greatly from the light sourcing, with some sublime spotlight effects on the forest stage and the sunlight shining through stained glass windows on King's church stage. Music, as is so often the case with Japanese games, is a rather mixed bag, combining some dire, cheesy lift muzak with one or two genuinely atmospheric tracks. Yoshimitsu's forest stage, for example, is accompanied by an incredibly haunting, ambient soundscape that adds much to the action.

The sound effects are even more nasty and bone-crunching than the original's. Especially prominent are the blood-curdling ripping and cracking noises which accompany neck-breaking holds - these really rub in the defeat of any opponent.



Tekken 2 is a testament to Namco's comprehensive understanding of playability: depth combined with intuivity, realism combined with outlandish moves and impossible characters, innovation combined with timeless gaming principles. Although some may feel it is ironic that the greatest advances in videogame technology are being made in the area of simulated violence, it is perhaps understandable. Few game concepts are simpler than two fighters competing in an arena, yet because of this surface simplicity, so much depth can be added. Consequently, *Tekken 2* provides one of the most compulsive gaming experience you could hope for.

Edge rating: **Nine out of ten**





The *Tekken 2* camera is impressively dynamic and scans the action from a variety of highly cinematic angles





***Tekken 2* boasts a range of weird characters to offset the more natural-looking fighters**





Onscreen indicators assist the learning of combos in practice mode (top). The game includes several secret modes (above)

Normality Inc.









The impressive 3D graphics engine enables fast movement around highly-detailed scenery. Whenever something crucial to the plot occurs, a prerendered sequence is played (above)

Format:	PC CD-ROM
Publisher:	Gremlin
Developer:	In-house
Price:	£44.99
Release:	Out Now





***Normality* is not without its fair share of toilet humour. Or acrobatic challenges for that matter**

To minutely dissect *Normality* would be a pointless exercise, the reason being that the whole, in this instance, is definitely more than the sum of its parts. The plot, while entertaining, is fairly unremarkable. You play a young man called Kent, with an excess of personality. A guy like him, more street than credible, would be intolerable enough in the real world, but he lives in Neutropolis, a city governed by fat people who have outlawed individual thought and enforce this personality suppression with a regiment of Norm Police. Kent starts the game imprisoned in a cell (in this case a rather grubby apartment room).

From this beginning you have to escape, contact a group of like-minded individuals, complete a short series of missions to prove your loyalty and ultimately overthrow the city's oppressive regime. Again unremarkably, this scenario is played out through a point-and-click system, the mechanics of which are much like any other. And in truth, as point-and-click adventures go, this is one of the simpler examples. Some of the challenges and puzzles are fairly involved and can hold you up for some time, but it's the amount of them, and the small number of locations to be visited, that limits the longevity of your quest. There are seven major locations each incorporating a number of smaller areas - the mall, for example, is made up of four or five smaller scenes.



The reason for the limited scope of the adventure, but also the reason why the whole package is worthy of great praise, is that this traditional adventure runs within a *Doom*-style 3D graphics engine. The benefits of this are manifold. The experience is much more immersive: unlike most point-and-click quests in which you sit back and watch your character walk from place to place, you see the scenery, objects and characters through your own eyes, making the quest feel much more involving. It also makes travelling between locations less tedious, as you're able to easily backtrack through detailed and familiar territory rather than having to marry separate and very different locations into some sort of mental map. It's also less time consuming, since Gremlin have included a map to enable instant skipping between the major locations. Within these locations, the nippy 3D engine makes exploration and repeated visits to crucial scenes effortless. The only minor problem is that movement is prone to juddering - an inevitable trade off with scenery as detailed as this.

Having seen how quickly the 3D action game has developed since *Doom* set the ball rolling, it'll be interesting to observe developments now *Normality* has established the ground rules for future adventure games.

Edge rating: **Seven** out of ten

Gun Griffon

Format:	Saturn
Publisher:	Game Arts
Developer:	In house
Price:	¥5.800 (£40)
Release:	Out now (Japan)



Night vision (above) is just one of the options which make the game more visually challenging



Military strategic shoot 'em ups (if that is an acceptable description of such games as *Shellshock* and *Krazy Ivan*, amongst others) are very seriously suffering from 'mixed bag syndrome' at the moment. Given the power of 32bit machines, together they have the potential to form one of the most playable and technically impressive genres of games, but through lack of adequate care in design, as much average product filters through as quality.

Gun Griffon falls into the former category. The first and most heinous crime committed is in the quality of its visuals. The positive graphical aspects are varied scenery, undulating landscapes, an acceptably wide range of enemies to encounter and relatively smooth movement. The negative aspects are unimpressive explosions, poor definition on some objects and glitching of scenery when viewed close up. However, the overriding fault (and it's one that really does impair the gameplay) is that most of the eight huge levels are far too dark and muddy. It may be that the colour scheme was used for reasons of realism or atmosphere, but the truth is, for the most part, it's harder to see what's going on than it needed to be. Whether it's the night vision goggles, the stormy weather around the Great Wall of China or the mist in the icy scenario, the problem of poor visibility remains. One solution is to turn up the brightness on your monitor. This helps very slightly, but in turn washes out what little vibrancy the colours had and leaves you viewing the game through a haze of whiteness. Original visuals and simulated weather conditions are to be applauded if they enhance the atmosphere or challenge in an intelligent and measured way. In *Gun Griffon*, these visual conditions merely frustrate the player.

The gameplay is also not without its problems. The eight missions are enormous and involve the player piloting an AWGS mobile suit around Eurasia sorting out a variety of military problems. The difficulty is set fairly high and some effort has been made to vary the missions – half of them require thought, in both strategy and technique, in order to work out the best approach to completion. But it's the structure of the missions that lets the game down. Each mission takes place within a restricted area (square or rectangular in shape), and within this sit the dozens upon dozens of enemy units. The aim, excepting a few deviations to pick off specific targets, is to simply trawl from one target to the next firing frantically until each and every last one is destroyed. What's more, all this has to be done within a time limit. The problem this throws up is that it's all too frequently the case that the time limit runs out just as you're about to complete a mission, thus forcing you to play through the whole drawn-out experience again and again. It does the longevity of the game no harm at all, but it can become very tiresome, cancelling out the benefits of the attempts to make the missions varied. Shorter, self-contained sections within the larger mission would have improved matters considerably.

After extended play the determination to finish a mission does, to a certain degree, keep you playing, but the frustration is always there and in the end *Gun Griffon* remains merely a competent game spoiled by muddy visuals and sprawling, undisciplined level design. E

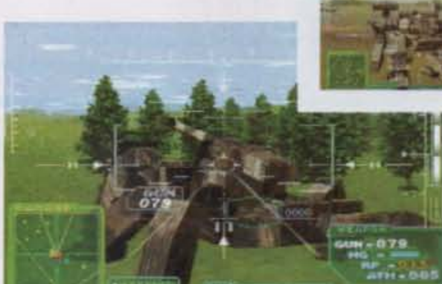






The explosions may be very big, but they're not particularly clever





On the positive side, some of the enemy hardware is very large and impressive

Edge rating: **Five out of ten**





Kiev is covered in snow and fog, making locating and destroying its train more difficult (above)

Edge dives into the swelling, and often perilous, waters of multimedia, searching for pearls of interactive entertainment

nuMedia

The merging of technology, intellectual properties and design talent is the single biggest challenge facing interactive entertainment. While the majority of videogames continue to scamper down the same narrow path, often satisfying the lower common denominator of consumer taste, multimedia (for want of a better term) is slowly making good use of a broad base of resources and is tackling a far wider remit. As with the majority of videogames, the quality threshold is still universally low, but developers are beginning to grasp the fundamental concept of interactivity, making some CD-ROMs a pleasure to navigate, instead of a chore.

Besides a selection of videogame-related books and seductive techno-gadgetry, nuMedia starts with a look at interactive music CD-ROMs. From the current torch bearer, Sting's *All This Time*, to the lowly embarrassment of *Junglism*, CD-ROM has the potential to embellish music with a wealth of informative and entertaining annexes. Similarly, given the increasing common ground shared by the exponents of electronic music and those working in the videogame industry (just as Leftfield powers *Wipeout*, contemporary techno manages to sound like the C64!), **Edge** has selected albums that, through their use of technology, are blurring musical boundaries and shaping the future of contemporary music. The approaching symbiosis of videogame and music companies will be interesting to watch.

While nuMedia is another example of **Edge** augmenting its videogames focus with coverage of a wider agenda, its core focus is still on videogames, not to be ousted by a mix of more extraneous content. **Edge** will continue to cast an even more discerning eye over videogaming, by consistently unearthing the technology, software and pioneers that shape the future of interactive entertainment.

in **association** with ocean

nuview

books

Hard Target

- James Adams
- Michael Joseph Ltd. £9.99
- ISBN 0-7181-4137-7
- 310 pages

National defence departments and intelligence agencies aren't the only ones to feel the pinch of post-Glasnost redundancy. Spy fiction writers have also been forced to evolve and diversify, and *Hard Target* latches onto the new



public enemies – international crime syndicates, drug cartels, unsanctioned arms dealers and, yes, hackers.

Author James Adams recently flirted with the sphere of videogaming by scripting Activision's *Spycraft*, and his experience as a defence journalist means he's at his most readable when passing on authentic secret service anecdotes or relating military procedures. The premise is intriguing and contemporary, posing the question, who do you think is now employing all those agents and 'specialists' trained for the cold war?

It's just a shame that the characterisation hasn't caught up. Protagonist David Nash remains the classic rogue male, a loner with honed survival instincts who shoots and stabs his way from one clandestine incident to the next with only a token pause for remorse. His two-dimensional acquaintances are introduced by the make and calibre of their preferred firearm, and the dialogue is a vehicle for explanation rather than development. If a novel wants to address biological weaponry with any degree of seriousness, no hero should ever be allowed to deliver the cliché, 'If something like that were to get into the wrong hands...' (page 91).

Unfortunately for Adams the book is being sold on its hi-tech espionage thrills, yet it's here that he seems most uncomfortable. Readers with the slightest interest in VR or the internet will find *Hard Target*'s toe-dipping clumsy and occasionally laughable, and the reliance on dubious gizmos to advance the plot puts a new spin on deus ex machina.

That you are able to ignore such inadequacies is a credit to the impressively frenetic pace Adams' portrays. The action, machismo and sadistic violence will provide passing thrills for the undemanding reader. But there's something paradoxically old-fashioned about this caper, and you can almost sense a yearning for the days when the bad guys gave themselves away by pronouncing their 'w's as 'v's.

The Dig

- Alan Dean Foster
- Corgi, £4.99
- ISBN 0-552-14490-8



From the epic LucasArts CD-ROM, *The Dig* follows the story of Boston Low, NASA shuttle commander extraordinaire who shies away from the limelight in favour of his quiet coastal retirement. When an asteroid threatens to collide with the earth, Low's sent up into space with bog-standard crew extra (who leaves the plot very shortly), a scientist (for those all important explanations) and a female reporter (for plot development). Their plan to alter its course falls flat when, surprise surprise, it turns out to be an alien craft, whisking them off to a strange new world...

Game plots may be improving, but they never really stand up to literary criticism – the commander is rugged, the scientist weak and excitable, the reporter headstrong, and the alien world weird and mystical. Stuffed full of predictable twists, contrivances, inconsistencies and repetition, this is quite an enjoyable read for exactly those reasons. Foster's style is easy-going yet smooth and efficient, making for non-taxing entry-level sci-fi at its best from the master of novelisation responsible for the Alien series and Spellsinger, among others.

multimedia

Dogz

- PF Magic
- PC or Mac (dual format CD)

If you're the sort of person who just can't use their PC or Mac without a custom desktop background and Homer Simpson samples for every possible activity, then it's quite possible that a pet dog living on your hard drive will seem a logical progression in personalising your lifeless box of technology.

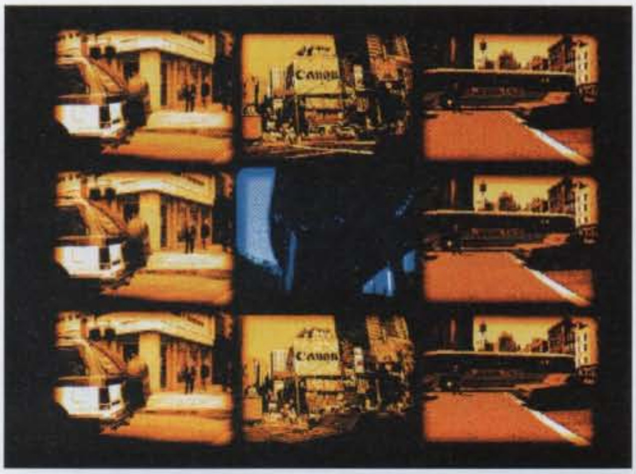


Dogz certainly isn't a new idea. Years ago many a Commodore 64 owner chuckled with malicious glee watching their tiny virtual house guest turn green with starvation, in David Crane's *Little Computer People*, and PF Magic's new 'pet on your PC' is nothing but an update on that crusty old gem. After 'adopting' your pup (who grows to be a 'proper' dog in around four months, so long as he is fed and pampered like all good puppies should be) you'll either find the cleverly-animated hound a constant hindrance to productivity, as you teach him to balance a ball on his nose and roll on his back, or, alternatively, incredibly annoying, as he constantly howls for attention (at which point a quick disciplinary squirt with the water spray can cause immense satisfaction). In any case you'll need to feed him 4Mb of free RAM, alongside any open applications, should you want your dog instantly available for that quick game of tag.

Taking the idea maybe a little too far, there is now a *Dogz* web site (http://www.pfmagic.com/dogz/) at which you can register your new best friend and even enter him/her in virtual *Dogz* shows. Although after wading through page after page of 'mutt mugz' snapshots you just might end up asking yourself why you spent so much money on a personal computer in the first place.



For animal lovers who feel their work hours could be spent more productively nurturing a puppy, *Dogz* provides the perfect answer



Modified FrEQuency

While the music industry grapples with the problem of creating music CD-ROM 'product' which might 'shift in megaunits', Modified, a bunch of painfully hip lads from Bath, have fashioned *frEQuency*, a music and visuals CD-ROM which will send all right-thinking clubbers with PCs and Macs into raptures.

FrEQuency thrusts you behind a realistic-looking mixing desk, with all manner of electronic kit gathered below a sort of projector screen area. Click on different items of kit, and you'll launch loops and samples, or else abstract, frenetic and strangely disquieting visuals, such as you might find in a video accompanying a release by some art-house techno band.

An impossibly huge store of MIDI files means you can create music to suit any mood, once safely ensconced behind *frEQuency*'s mixing desk. Jungle, hip hop, trip hop, trance and techno beats, apocalyptic vocal samples, chilled abstract warblings and whooshy atmospherics can all be set off as required. Getting mellow? Just drop the beat and add some more effects and, hey presto, you've got an ambient track. You can even get the visuals to noodle around in a chilled manner, if required, or pull in bits of your favourite music CDs.

This, surely, is the point where CD-ROM technology and music meet to the greatest effect, with you controlling your own warped audio-visual world. This is also the only CD-ROM **Edge** has ever seen which works best when you're completely blasted. *FrEQuency* offers a tantalising glimpse of the future, and it is already mushrooming thanks to a big new Modified website containing heaps of extra MIDI files. Be warned: it needs a quick machine with a decent sound card, although 3DO and PlayStation versions are planned; and, at the time of writing, it was still not ready to ship - **Edge**'s copy lacked such niceties as an install program. But if you manage to track down a copy, steal the money to buy it, if necessary.

This is the first music CD-ROM with a function beyond milking some fat-cat artist's fanbase of even more hard-earned wedge. Make sure you buy a copy before the music industry rips off its basic idea and gives it the corporate treatment.

Supplier Modified
Platform Windows 3.1, Windows 95, Mac
Price TBA

Sting All This Time

Sting has rather a reputation for being a constant source of irritation, with his whiny voice, pompous musings on the nature of songwriting, embarrassing forays into the Amazon and so on.

Thanks to *All This Time*, it is now clear that he is aware of this. And that he is troubled by it. It is clear, because he spends a good proportion of *All This Time* making fun of himself. In fact, *All This Time* leaves you thinking Sting should get himself a new PR person, because the CD-ROM gives him the chance to be intelligent, thoughtful and even a tad anarchic.



Philips has obviously sunk a lot of money into *All This Time*. It is beautifully produced, placing you in an eerie, medieval islandscape, strewn with buildings inside which all sorts of odd occurrences take place. Carefully concealed about the island are a number of Tarot cards - collect all these and Sting himself will tell your fortune. While you stumble around looking for them, you might find Sting talking about death, or giving you a flash of his digitised nether regions while he performs his yoga exercises. Or you can construct a rather trip-hoppy Sting tune of your own, by clicking on two blue turtles to launch looped MIDI files. Or you can listen to Sting telling you stories about how spaced-out Bob Dylan is. Or watch the man himself in a Vic and Bob sketch which is particularly funny, even for those two.

Of all the music CD-ROMs produced by major label acts, this is, without even a shadow of a doubt, the best. Which, for some trendy Sting haters, maybe a revelation hard to cope with. *All This Time* still conforms to the music CD-ROM format pioneered so lamely by the likes of Peter Gabriel, Prince, The Rolling Stones and The Cranberries. But, if Sting's public image doesn't irritate you too much, you might want to check out *All This Time*. Admittedly, when **Edge** received *All This Time*, the notion of reviewing a CD-ROM based upon Sting did not particularly inspire. But, thankfully, some things in this multimedia world steer clear of the cliché. This is one of them.

Publisher Philips
Platform Windows 95
Price TBA

Sounds of the City

You may well be familiar with the *Sounds of The City* series of above-average house music compilations, showcasing tracks from collections of labels based in some of the UK's major cities. They're good enough not to have drowned under the relentless flood of house music compilations on the market. The Manchester crew, consisting of three labels: UFG, Planet 4 and Fantastic, have gone a step further than the others by creating a CD-ROM version of their compilation. This is a fairly typical multimedia CD-ROM, with large amounts of digitised video. It's split into three sections, entitled The Labels, Interactive Manchester and Virtual DJ. The first two sections are a predictable mixture of cheerfully amateurish video introductions and copious textual information. But potentially the most exciting section is the virtual DJ booth.



Enter this, and you are treated to digitised video footage showing Manchester's top DJs giving their pet DJing tips - some useful, some fatuous. After this introduction, you are invited to pick one of two record boxes, and are taken to a virtual DJ booth with graphical representations of a pair of Technics decks flanking a cross-fader.

At last, you might think, someone has finally realised how easy it would be to create an accurate, working virtual replica of a DJ's booth. But alas, you soon realise that all you can do is place records on your decks, set them playing from the beginning and crudely mix between them. You can't cue tracks to particular points or adjust their speed, so mixing is out of the question, let alone teaching yourself tricks like scratching or spin-backs. Hopefully somebody will seize this excellent idea and execute it in a less shamelessly pathetic manner. Until then, *Sounds of The City*, however poor, will have to suffice. Sounds of The City can be found on the internet at http://www.sotc.com.

Publisher Sounds of The City
Price TBA
Platform Windows 3.1, Windows 95, Mac

Continued next page

Continued

Junglism

Junglism claims to be 'the full story of the jungle music phenomena' communicated through 'an exciting multimedia environment'. In reality, it is an exploitative and poorly put together multimedia mish mash.

Divided into six interactive rooms (hidden in and around a blurry cityscape), all turn out to be variations on the same theme. In The Record Shop you can listen to jungle music, look through flyers and magazines, and read artist biogs (by clicking on the relevant icons). In the Living Room you can, yes, look through flyers, read magazine articles and listen to jungle music. Admittedly, the flyers are beautifully designed, but is it really worth paying £25 to look at them?

The best bits are the Space Temple and Club, where you can mess about with the music and add breakbeats and samples. This really should have been the centrepiece of the CD - its the only vaguely interactive element.

CD Vision's intention is earnest and worthwhile, but there's so little, and it's so appallingly put together. Enthusiasm is never an excuse for amateurism. Certainly, if jungle was as bad as this, no one would listen to it.

Producer: CD Vision
Price: £24.99
Release: Out now



In the living room, players can read flyers and magazine articles or just try to stay awake. The jungle mobile (inset) is equally soporific

music

Underworld
Second Toughest in the Infants

Junior Boys Own

Three years after their first album, *Dubnobasswithmyheadman*, Underworld have lost neither their penchant for great album titles or their ability to create distinctive music.



Second Toughest is another foray into the group's smoky den of dub sleaze and quasi-industrial techno. The distinctive lyrics, guitar samples and lazy beats of *Dubnobass...* are back, but here the original's weird indie dance leanings have been removed.

Although not quite the subversive, heterogeneous masterpiece that was *Dubnobass... Second Toughest* is still a haunting trip. Dub noir.

Various
Tekken: Windermere, the jungle mixes

JVC

JVC has persuaded British jungle superstars to remix the *Tekken* soundtrack - although you'd be hard pushed to recognise any strain of the original.



Lemon D gets the ball rolling with a rather Eastern-tinged, synth-led affair perched on top of an extremely meaty, yet mellow, bass-line. Lemon D and Dillinja don't quite hit top form with variations on a minimal drum-and-bass theme, although Lemon D's dreamier effort just pips Dillinja's dark, string-laden reworking. Best are Dubtronix's dub and techno-influenced mixes, underpinned by nice clean breakbeats which never threaten to get frenetic.

Cygnus X
Hypermetrical

Eye-Q

The rise of trance has led to a plethora of new albums from artists who fuel the lighter side of techno. This admirable debut release from electronic maestro, Matthias Hoffman, is a welcome excursion into the stonier ground of Germanic trance.



Aside from the occasional groovy breakbeats and ethnic warbling, *Hypermetrical* relies on an insistent, synth-laden formula enriched with perky, fluttering melodies. Only the finale, the hypnotically-orchestrated Orange Theme, tones down what is essentially a full-on, metallic trance workout from a musician that clearly doesn't like to fart around.

Man With No Name
Moment of Truth

Concept in Dance

Moment of Truth is no sample-laden exercise for techno trainspotters, but a rather polished slice of Goa or psychedelic trance - a strain of techno that, in a roundabout way, has its roots embedded in the sun-soaked sand off the west coast of India. Fast, multi-layered synths are littered with the kind of melodies and aural hooks that used to pulse from the C64 in its heyday. That's not to say this doesn't kick hard - in places it positively hammers, and occasionally - as with spirited club favourite, Floor Essence - with enough verve to floor an elephant. Happy hippy techno for game music heads.



Faithless
Reverence

Cheeky Records

Beginning with a lumbering rap and ending with the near unconscious ambience of Drifting Away, *Reverence* is one of those rare albums that really deserves the overused tag 'eclectic'.



Created by DJs Rollo and Sister Bliss, along with various other collaborators, *Reverence* sways effortlessly between musical styles, taking in anthemic house, techno and bluesy ballards along the way. Everything works perfectly, with divergent sounds merging together rather than grating uncooperatively. In all, *Reverence* will make a marvellous aural accompaniment to the impending British summer.

System Seven
Power of Seven

Butterfly Recordings

For their fourth album as System 7, ex-prog rocker Steve Hillage and partner Miquette Giraudy have come up with yet another trippy assortment of ambient meanderings.



The first six tracks remain in Orb country, with hypnotic synth rambling over chugging old-school beats. Davy Jones' Locker introduces a rumbling dub bass to liven things up, but *Power of Seven* doesn't really move until the three tracks which make up the album's 'Osmosis Suite'.

As chill-out music, *Power of Seven* works well - but if there's a new direction for ambient to go in, System 7 aren't in a rush to find it.

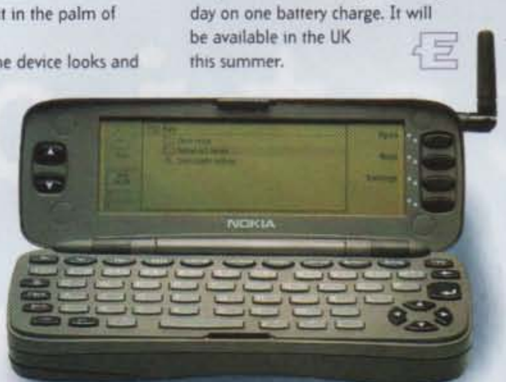
gadgets and gear

Nokia 9000

Revealed for the first time at the CeBit show in Germany two months ago (see E32), the Nokia 9000 is an 'integrated digital communications tool' which includes mobile phone, fax, email, internet and address book facilities. It also happens to fit in the palm of your hand.

When folded, the device looks and operates like a standard mobile phone. However, when opened, the fax, email, internet and address book functions can all be operated via the keyboard and a single user interface. To send a fax, for example, the user presses the fax application button, writes a note and selects the recipient from the address book.

While the case is open the phone can still be used – hands free – meaning you can type and talk at the same time. The Nokia 9000 can also be connected to a PC and is designed to operate for an average working day on one battery charge. It will be available in the UK this summer.



Nokia 9000 Communicator £1,500 Tel 0171 436 4060







Wipeout gear

Created by Chelsea fashion emporium, Million Dollar, and featuring Designers Republic motifs, the *Wipeout* clothing offered in E31's competition provoked a massive reader response.

For those not lucky enough to win, but still interested in owning some, the whole range of *Wipeout* garb is available from Million Dollar's own shop in Chelsea as well as M.A.S.H in Oxford Street and Flip in Soho.

Million Dollar have also come up with two *Tekken* T-shirts and are currently working on a range of *Pac-Man* gear.

***Wipeout* gear** from £11.99 to £39.99 Tel 0171 376 7688







Sony YPPY

YPPY is a limited range of ten customised Walkmans fitted with materials such as laces, aluminium, fasteners and buckles, to give them all a characteristic 'designer' look.

But aren't Walkmans supposed to be inconspicuous?

Sony YPPY from £50 to 80 Tel 0181 784 1144

Minipod speakers



Unselfconciously billed as a 'cyber organic experience' by designers Blue Room, the minipod speaker is the newest installation in the company's Alien Hardware Collection (which also includes the House and Techno Pod speakers).

Available in white, black, red or blue, the minipod is rather amorphous in design, inspired perhaps by the bio-technology of HR Geiger or the organic explorations of William Latham.





Either way, the speakers are a sleek contrast to the usual shoe box efforts and, with B&W Speakers taking care of the acoustic engineering, they have a range and sound quality to match their aesthetic attributes. Blue Room also has its own record label, Blue Room Released, which caters for the growing following behind psychedelic trance. Published artists include Total Eclipse (France), Etnica (Italy) and Danish trance maestros Kox Box.

Minipod speakers £400 Tel 01903 524801

competition



Sony MZ-R3 MD Walkman £400 Telephone 0171 784 1144

Win a Sony MiniDisc player

Introduced by Sony in 1992, and intended to rival the cassette, the MiniDisc comes in two forms – premastered and recordable. The latter uses magneto-optical technology and can record from CD with no loss of quality. Furthermore, you can re-record on the same disc a million times without deterioration.

Apart from the MiniDisc's obvious advantage in terms of sound quality and size, Sony's top-of-the-range recording player, the MZ-R3, has ten seconds of shock-resistant memory plus a full suite of editing features including the ability to add, delete and even change the order of tracks.

In conjunction with Sony, **Edge** has one MZ-R3 player (worth £400) to give away. To stand a chance of winning it, simply answer the following question on a postcard or envelope (along with your name and address) and post it to **SONY MINIDISC COMPETITION, Edge Magazine, 30 Monmouth Street, Bath Avon BA1 2BW.** Competition closes June 9, 1996.

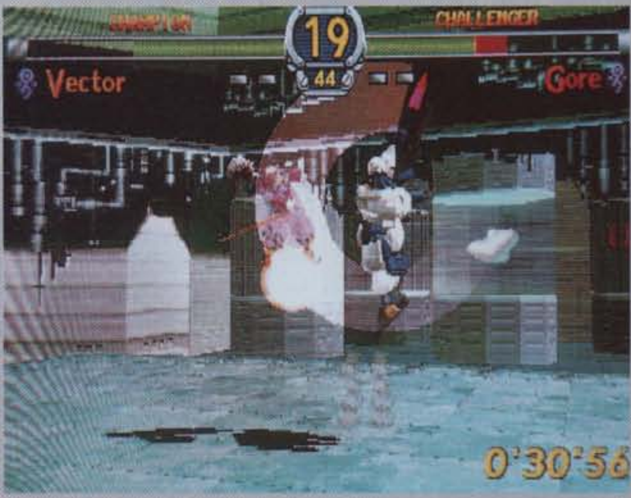
Q. In what year was the Sony Walkman introduced to the world?

Note to those sending multiple entries: **Edge** bins them

Is the 3D beat 'em up bandwagon buckling under the weight of its passengers? Capcom enters this most congested of arenas

Star Gladiators

Developer: **Capcom**
UK release date: **TBA**
Origin: **Japan**



The graphical effects in *Star Gladiator* mimic *Toshinden 2* to some degree, with flashes of light and spark bursts when contact is made











Rather than being based on hand-to-hand combat, *Star Gladiators* employs weapons

While the irrepressible march of technology can only represent good news for the arcade goer, arcade operators are suffering as coin-op hardware costs escalate (a Sega Model 2 PCB, by way of example, clocks in at around the £2,000 mark). Following Namco's and Sega's efforts to produce cheaper units (in the form of the System 11 and ST-V boards, respectively) Capcom has produced its own low-cost, PlayStation-based architecture.

Eschewing the typical orientally-styled setting favoured by the majority of fighting games, *Star Gladiators* is set in a futuristic world and features characters ranging from the robotic to the alien to the mutated. In keeping with current trends, each uses its own weapon – an axe, a spear and a dagger being among them – and the majority of combat is conducted through their use rather than unarmed attacks with the hands or feet.

As well as the now-standard range of special attacks, each character has the ability to grow in size, at which point the game camera zooms out to re-frame the action. Varied 'camera work' looks like being one point set to differentiate *Star Gladiators* from the likes of the *Virtua Fighter* games, in fact, seeing Capcom go to great pains to make the action appear as fast, dynamic and exciting as possible.

It may not be *Street Fighter III* – Capcom is rumoured to have gone back to the drawing board on that title after seeing what Sega has achieved with *Virtua Fighter 3* – but *Star Gladiators* is a solid first step into the third dimension for Ken and Ryu's parent. E





When characters change form and grow, the active camera zooms out to best display the action, adding speed and fluidity to each fight

Viper Phase 1

Developer: **Seibu Kaihatsu**
UK release date: **Out now**
Origin: **Japan**

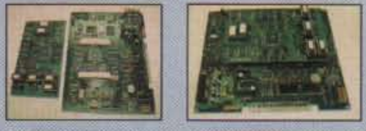




While the visuals look destined to impress, the real work has been made on the game's AI

If Capcom's niche is fighting games then lesser-known Japanese softco Seibu Kaihatsu's must be vertically-scrolling shoot 'em ups – most famously its popular *Raiden* series.

Its latest effort owes much to those games, offering simultaneous two-player gameplay over eight stages of varied terrain, with five types of upgradeable weapon – standard vulcan beam,



Seibu Kaihatsu's new 386-based SPI-32 coin-op board (right) accepts slot-in game data boards (left)

wideshot, laser beam, napalm and missile.

Perhaps the most notable difference between it and its forefathers is its difficulty structure. 'The important difference between *Viper Phase 1* and *Raiden* is that the new game is always going to match the player's level,' says the game's lead programmer, Mr. Sakai. 'The

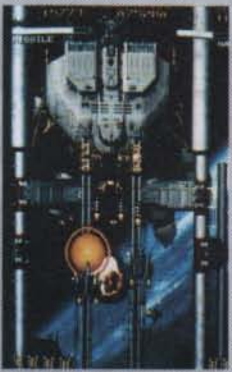


***The Viper Phase 1* development team: Sakai-san and Sasaki-san (coding) and Ohtake-san (coding and graphics)**

board makes intelligent calculations in order to determine the skill of the player. The market at the moment is filled with fighting and racing games and we are trying to attract people who haven't played shoot 'em ups for a while. That's why we developed this intelligent difficulty level setting, so that players who haven't got experience with this type of game can try it out and make some progress.'

Viper Phase 1 is the first game to use Seibu's SPI-32 motherboard, whose guts are an Intel 386 DX attached to a custom graphics processor. The game data sits on another board, operating in the system as cartridge software does in a console. As well as providing a platform for future releases in simple plug-in format – Seibu currently has a puzzle game in the works – this setup allows non-Japanese versions to be converted and released with ease.

While the coin-op world goes polygon crazy around them, the developers at Seibu seem content to continue wringing life out of sprite-based concepts, at least for the moment. 'We don't want to release a typical 3D polygon game – we want to make a game that is different, outstanding,' says Sakai-san.





Simultaneous two-player gameplay, made famous by *Raiden*, features heavily in *VP1*

Ultimate Tiger 2

Developer: **Toaplan**
UK release date: **Out Now**
Origin: **Japan**



Aping *Raiden*'s blue and red power-ups, *Ultimate Tiger 2* enables four levels of upgrade

Ultimate Tiger 2 (aka *Tokkyu Tiger*) is essentially an extension of the original 1987 shoot 'em up with touched up graphics and gameplay smothered with the commonplace selection of power-ups.

Perhaps the most notable new feature is the 'bomber' weapon, which destroys both enemies and their bombs in one apocalyptic, if short-ranged, blast.

Apart from the odd novel feature, however, *UT2* seems more align with classics like *Raiden* and *Flying Shark*, with little else to offer.



The 'bomber' weapon (above) is *UT2*'s most destructive, and graphically impressive feature



In the eighties, 'arcade perfect' was a relative thing, as ColecoVision proves

CBS ColecoVision





The ColecoVision's 14-button controller was lauded for its flexibility – Atari's VCS equivalent had one solitary fire button. The *Turbo* module for the game of the same name (right)

Format:	Console
Manufacturer:	CBS Electronics
Developer:	Coleco
Released:	1982

Inspired by the phenomenal success of Atari's VCS console, the US-based Coleco (COnneticut LEather COmpany) launched its ColecoVision console in August 1982. The company had already dabbled in home systems with its doomed-to-failure Telstar Arcade unit in the seventies, but this new machine had power enough to deliver acceptably accurate versions of big-name coin-ops. The initial production run of one million machines sold out in record time – largely thanks to a quality conversion of Nintendo's *Donkey Kong* which accompanied its release – beating sales of established consoles such as the VCS and Mattel's Intellivision into second and third place respectively by 1983. Coleco's sales grew at







The ColecoVision's software library included coin-op conversions such as Sega's *Root Beer Tapper* (left) and *Spy Hunter* (middle) and original wares like Activision's *River Raid* (right)





Shoot 'em ups such as *Gorf* (above) and *Beamrider* (top) were popular during the ColecoVision's heyday

an astonishing rate – from $178m to $510m between 1981 and 1982 – and the Colecovision looked like becoming an unstoppable force.

One of Coleco's most clever strategies was engineering its console with expandability in mind. Within months of launch the machine was joined by a steering-wheel expansion module (to work with Sega's driving game, *Turbo*) and a unit which enabled the machine to play VCS cartridges – although the latter option's life was threatened by an (ultimately fruitless) $850m lawsuit filed by Atari for patent infringement. With the VCS' software library under its belt along with a surge of interest from





The ColecoVision excelled with straightforward games such as *Mr Do* (left) and *Ladybug* (right)

thirdparty developers, the ColecoVision soon enjoyed the largest range of games of any videogame system of its day.

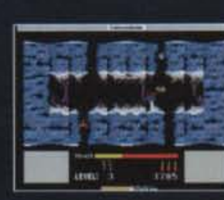
Weighing in at up to 32Kb in size, ColecoVision carts were similar in style and construction to Atari's VCS variety. System connoisseurs cite games such as Activision's *H.E.R.O.* and Parker Brothers' *Q*Bert* as being among the best, with accurate versions of acknowledged arcade classics such as *Galaxian*, *Burgertime* and *Frogger* also existent.

An 8bit Z80A CPU generated up to 32 sprites but lacked support for smooth scrolling, making the unit more comfortable handling graphically undemanding games such as *Ladybug* (a static-screen maze game indebted to the likes of *Pac-Man*) than taxing games such as *Zaxxon* (Sega's isometric 3D scrolling shoot 'em up).

The infamous videogames crash of 1984 brought the behemoths Atari and Coleco to their knees, and the production of Colecovisions came to an abrupt halt the same year. A total of six million machines are believed to have sold through.

Looking at the system and its games today is an uncomfortable experience. Despite having been originally sold as the first console to offer a true coin-op experience in the home, so-called 'perfect' conversions fall noticeably short of the mark, often lacking in colours, levels and options.

In its day, Coleco's machine was truly the Rolls Royce of consoles. It's difficult to look at any vintage games machine nowadays and see its worth as a viable part of modern videogaming, yet the ColecoVision still commands a loyal following, both with owners of a bona fide system from the eighties and those who can only appreciate its value via the PC and Mac emulators that have been spawned in recent years. Either way, it is a system not to be forgotten.





Two of the system's most acclaimed games were a great version of Activision's classic, *H.E.R.O.* (left) and a fine translation of *Q*Bert* (right)

Shooting Collection Volume I

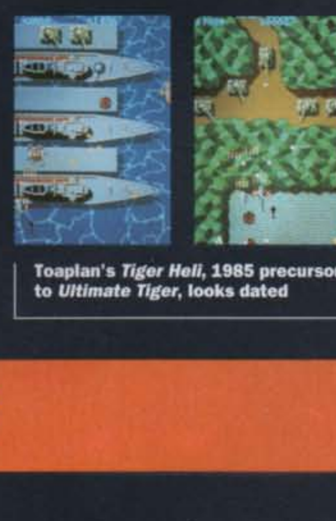


On the surface, ***Ultimate Tiger*** **looks like the average vertical scroller, but Toaplan's unmatched design skills count for a lot – this is one of the best-structured and most rewarding shoot 'em ups ever created**

Format:	PlayStation
Publisher:	Banpresto
Developer:	In-house
Release:	Japan

The now defunct Toaplan, past master of the vertical coin-op shoot 'em up, has made a welcome entry in the retrogaming scene via a license with Banpresto, which is converting its respected shoot 'em ups *Tiger Heli* and *Ultimate Tiger* to the PlayStation.

The first compilation pack, entitled *Shooting Collection Volume One*, showcases two games that epitomise Toaplan's supremacy in the vertically-scrolling shoot 'em up field during the late eighties. *Tiger Heli* may be bordering on the crusty side but if Banpresto manages to convert the follow-up successfully, the game should prove just as challenging as when it first appeared in 1987. Hopefully the entire Toaplan catalogue will follow on later volumes.



Toaplan's ***Tiger Heli*****, 1985 precursor to** ***Ultimate Tiger*****, looks dated**

Sega Ages



Afterburner **(top) and** ***Out Run*** **(above) – two Sega titles that have fared differently over the years, but are to appear on the Saturn soon**

Sega has announced a Saturn compilation featuring a number of its old arcade hits under the name, *Sega Ages*.

Out Run and *Afterburner* are known to be among the candidates for resurrection on the CD, and it is thought that classics such as *Hang-On*, *Space Harrier* and *Super Hang-On* will either join them or appear in a subsequent volume.

Sega's first choices are of varied worth: *Afterburner*, though visually groundbreaking in its day, lacked the kind of replay value of its stablemate, *Out Run*, which can hold its head high today and command respect as an example of tuned-to-perfection gameplay and a wonderfully progressive structure – not to mention a legendary musical score.

Format:	Saturn
Publisher:	Sega
Developer:	In-house
Release:	TBA

Edge Gallery

Computer-generated imagery enriching the world's most aesthetic interactive entertainment



Panzer Dragoon Zwei (see page 68) is an unequivocal triumph of design over content. *PDZ*'s raison d'être is its unmatched visual grandeur – a look that borrows heavily from the work of French artist Jean 'Moebius' Giraud (leading light behind the LA-based design outfit, Starwatcher Graphics). Employing some incredibly naturalistic creature design, and a beautifully realised fantasy world, Sega's second instalment in the series was created in-house by a small group of Japanese CGI artists collectively working under Sega's Team Andromeda banner. If only Sega's game designers had the confidence to immerse such rich imagery in a game with greater scope...

Created by **Yeshido Kuntaro** (CGI director), **Yukio Fatasjui** (CGI designer) and **Katsuhiko Suto** (Setting) on SGI using Softimage




SHEEP
TURKEY
DUCK









Designed in the extremely efficient rendering package. *Renderman*, a stand-alone rendering tool developed by Pixar when still part of LucasArts, the computer graphics in Toy Story are so good, you forget they *are* computer graphics. Considering Woody, Buzz et al are mathematical models, they are incredibly believable, with distinct visual characteristics, obvious emotional responses and idiosyncratic gestures and expressions all working on a subliminal level.

Toy Story is to the nineties what Snow White was to the thirties - a massive leap forward in animation technology. And, perhaps more importantly, a great film.

Created by **Pixar Studios** on Sun workstations using *Renderman*





EO is the second major project from Japanese development team, Warp, following the Dracula-inspired adventure *D*, that won major accolades in its domestic market. Unlike its Amiga and Lightwave-rendered forerunner, *EO*'s visual design is being created on Silicon Graphics gear coupled with Alias | Wavefront's *PowerAnimator*. In its efforts to power up the tools used by its in-house designers, company boss, **Kenji Eno** (see page 22), is keen to relocate his company to San Francisco: 'We want an SGI network, a motion-capture studio and a 3D scanner - it's simply too expensive to buy this kind of gear in Tokyo.'

Created by **Sho Tateishi** (CGI director), **Fumito Ueda, Hirohiko Sugamura** (CGI animators), **Hiromi Hayashi** and **Tomohiro Miyazaki** (modelling/texturing) on SGI using *PowerAnimator*



This stunning piece of art, created by Psygnosis' senior artist, **Jim Bowers**, for the forthcoming *Wipeout 2097* (see page 62), is demonstrative of the myriad methods which are used to build CGI. Beginning, in a rather crude fashion, Bowers applied plasticine to an Action Man figure to fashion a model (see page 25) which could be digitised with a 3D scanner. The pilot's facial detail was sourced from a commercial 3D library, while the helmet was rendered manually, and the two then welded to the scanned torso, whose jumpsuit was later embellished with new Designers Republic insignia. *SoftImage* was the package used to render the background, and the two styles were blended together using a 2D paint package – something which, ironically, proved to be one of the most time consuming parts of the whole process.

Created by **Jim Bowers** on SGI using *Softimage*

3D Studio MAX

From the early days of 2bit graphics, the PC has evolved into a fully-fledged 3D visual unit. Now the software exists to exploit it...

After almost four years of development, Autodesk's latest release in the 3D graphics field, *3D Studio MAX*, has just started shipping. Developed specifically for *Windows NT* (as opposed to previous *3DS* releases which all ran under *DOS*), it's the latest attempt by the company to bridge the PC-to-workstation performance gap.

Not that *3DS*, currently on release 4, has suffered particularly from that gap. Autodesk claims 55,000 customers globally for its software and has had the recent boost of its first major feature film application (the 80-second opening sequence and other effects in the otherwise woeful Johnny Mnemonic). The hope is that *MAX* will further increase the company's market penetration and emulate the success of its design software, *AutoCAD*.

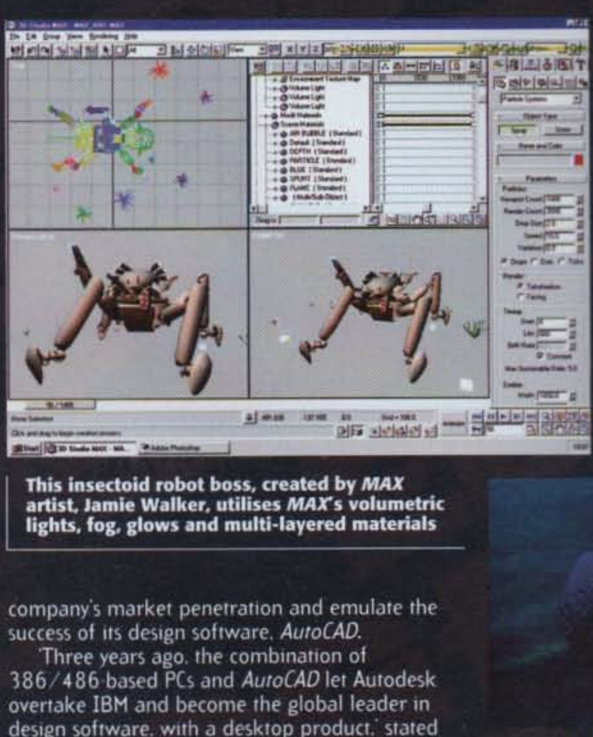
'Three years ago, the combination of 386/486-based PCs and *AutoCAD* let Autodesk overtake IBM and become the global leader in design software, with a desktop product,' stated President and CEO, **Carol Bartz** at *MAX*'s European unveiling. 'To date, our *3D Studio* product line has been tremendously successful, capturing nearly half of the entire worldwide market for professional 3D animation, on a relatively old operating system and modest hardware. *3D Studio MAX* on *Windows NT* should have an "*AutoCAD* effect" on the high-end 3D graphics and animation market, levelling the playing field in every respect except price, where we will win hands down.'

Indeed, *3DS* unofficial slogan, '80% of the functionality for 20% of the price', seems to be holding true. *MAX* costs £2,695 (though existing *3DS* users can migrate for a mere £695) and added to its recommended system requirements of a Pentium with 64Mb RAM and 200Mb free disk space, its total cost hovers around the £5,000 mark. In comparison, Alias|Wavefront's *PowerAnimator 7.0* software alone starts at £8,000.

In terms of that functionality, *MAX*'s use of the more powerful *Windows NT* OS has enabled Autodesk to make several advances over version 4, such as utilising its symmetric multi-processing features. This allows the potential to apply more than one CPU to a single *MAX* operation, or assign individual processors to several operations simultaneously. According to beta-testers, this has speeded up many operations within the program and should lead to significant productivity gains.

Innovations within the product include TrackView, which provides animators with a vertical 'flow chart' of any subset of objects within a scene and all the effects applied to

Format:	Windows NT
Publisher:	Autodesk
Developer:	In-house
Price:	£2,695
Release:	Out now





This insectoid robot boss, created by *MAX* artist, Jamie Walker, utilises *MAX*'s volumetric lights, fog, glows and multi-layered materials

Continued next page

CGIscreen

Continued

them: Space Warps, to ease the animation of scene-based special effects; volumetric lighting effects; and a highly flexible materials editor. The most significant steps forward, however, come with two of *MAX*'s core component 3D animation plug-ins – Character Studio (formerly codenamed Biped) and Physique. 'A combination of those two packages really will allow any animator on the PC to have realistic motion that was only realistically available on the SGs previously,' says **Andy Roberts** of beta-testers, BITS.

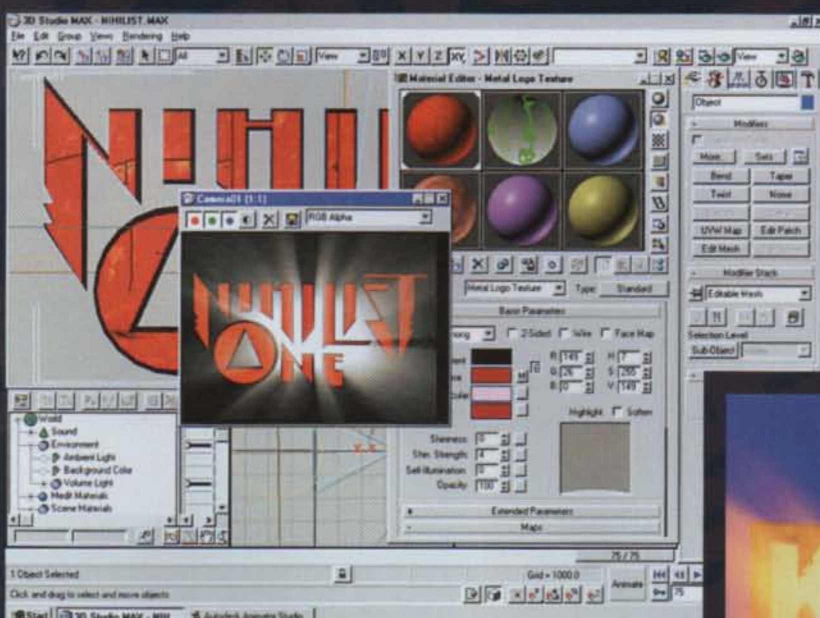
> **'All of the major plug-ins you would expect, or were available with the *DOS* product, are going to be beefed up for *MAX*'**
> **Nick Manning**, Autodesk software

The core component plug-ins are the key to *MAX*'s hoped-for success. Highly integrated, they are Windows Dynamically Linked Libraries (DLLs) and, as *MAX* itself is implemented as a series of DLLs, third-party producers will be able to build seamless extensions into the program.

'All of the major plug-ins you would expect, or were valuable with the *DOS* product, are going to be beefed up for *MAX*,' says Autodesk's **Nick Manning**. 'I would describe IPAS routines for *3DS* as applets, mini applications that plug in, whereas core component plug-ins for *MAX* are the full-blown monties of the systems that can be plugged in.'

Manning is coy about who exactly is developing plug-ins, but claims to have a three-page list of companies – it's probable that the eventual list will include NURBS modellers, paint packages, metaballs, and raytracers. It's worth pointing out that part of the reason for *AutoCAD*'s success has lain in third party support, but can they help narrow the gap to the SG applications? Andy Roberts certainly thinks so. 'What I'm finding while I've been evaluating *MAX* is that many of those features [of *Alias*] are available within *MAX*. There is still that small percentage, there are still things that you're going to get on the SG platforms that aren't available at the moment on *MAX*, but then the thing isn't really released yet... but definitely, if we look at the gap that's currently there between *R4* and the SG packages, by the time *MAX* is released that will definitely be shortened.'

In the short term, Roberts sees an outbreak of 'Chrome Dolphin Syndrome' occurring as developers pounce on certain new aspects of the software before eventually getting to grips with its depth. After that, though, he augurs a successful future. 'It'll take a little while for the games industry to adopt the *MAX* standard. It will happen. I don't think there is really any doubt about that. In time, people will be seduced by the amount of features, the functionality and the price point, and they will be seduced back to *3DS* as an authoring tool within their environment. I'd say within a six-month gap you'll start to see some really high quality imagery come out.'

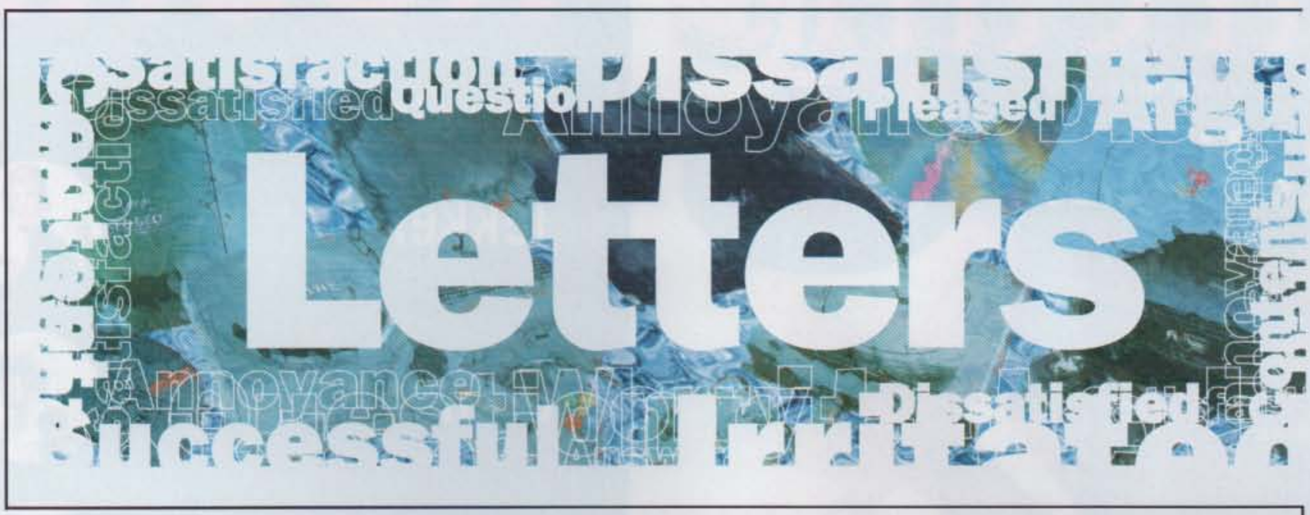






***3D Studio MAX*'s intuitive tools include the highly-flexible materials editor (above) enabling wonderfully textured, lightsourced objects to be created. Autodesk's Kinetix division (right) is geared to interactive entertainment**

viewpoint



*Express yourself in **Edge**. Write to: **Edge** letters, 30 Monmouth Street, Bath, Avon BA1 2BW*

Imagine you've spent years training an athlete, honing his skills until he's arguably the fastest runner in the world. Then, just before the big race you tie his shoe laces together. Unthinkable? Not for Nintendo, which, by making N64 cartridge-based, has done just that. How can it, or any member of its 'Dream Team' possibly exploit the full potential of its super console on such a medium? Does it know something we don't, or is it just in CD denial? I know, let's ask Square Soft.

Paul Redgrave, Manchester

No. Nintendo hasn't just done what you claim. The Nintendo 64 has been a cartridge-based format since its inception: companies developing on the machine have been working to the restraints of silicon-based storage from day one.

Nintendo is certainly 'in CD denial'. From the beginning it has been keen to differentiate its product from all other existing platforms and it has been one of the most vocal of all videogame companies in damning the non-interactivity spawned by the nature of compact disc storage. It has conceded that large-volume storage is necessary in the development of videogaming, but believes the constraints of existing optical formats to be far too limiting - hence the 64DD, a potentially revolutionary magneto-optical device.

Square Soft's PlayStation development deal is, in truth, shrouded in secrecy - there's certainly more to it than it simply being a case of shunning the N64 because of its reliance upon silicon storage.



Is Nintendo cutting the throat of the N64 by ignoring the potential of CD and making it cartridge-based? Paul Redgrave seems to think so

Without trying to insult anyone, I wonder just how much your readers actually know about Nintendo? Without a doubt, its marketing work in the mid-eighties was some of the best strategic warfare ever initiated by a foreign company. For that, it must surely be commended. And the rise of the company over the past 50 years, mainly due to the masterful planning of Hiroshi Yamauchi, is a fantastic achievement. But, while everyone is currently high in a wash of intrigue and anticipation, perhaps I could just draw people's attention to a few points that I feel may clarify why Nintendo's latest announcement has not come as a surprise to me.

Quite frankly, Nintendo is renowned for making errors in the videogame business. Let me give you some examples. First, the original Famicom had to be recalled from circulation, due to the systems 'freezing' under certain circumstances. Secondly, Nintendo tried - and failed - once before, with a Famicom-type 'bulky' drive. A system for which great games such as *Dragon Quest* and *Super Mario Bros 2* were released. The ill-fated SFC CD-ROM was promised on many occasions and never showed up. Some companies even got as far as to produce near-finished software for it. The Super FX chip has never really been exploited to its original claims. The Super GB has been left to die. The Virtual Boy - say no more!

And now we have the hype and sorrow of the Nintendo 64. This machine has seen three release dates come and go, surely Nintendo has waited too long against the onslaught of the Sony PlayStation. And with what can only be regarded as blatant cheek, NCL expects people to buy the system and only four months later go out and purchase a data storage add-on.

NCL claims cartridges have been used because not only was CD-ROM technology too slow, but too expensive. It appears to me, that with long-term allies Square Soft recently departing, a more realistic approach to memory should have been analysed. Is NCL really saying a bulky drive will be less expensive than a stand-alone N64 with quad-speed CD-ROM? Perhaps, realistically, and justifiably, it is the great Shigeru Miyamoto whom we all idolise in the videogame business, and not Nintendo?

Lee Axon, West Benwell, Newcastle

Most big players in the videogame market – most famously Nintendo, Sega and Atari – have had their fair share of disappointments and downright failures during their existence.

Nintendo has been walking a tightrope with the N64 ever since it was first announced under the monicker 'Project Reality'. Regardless of the speculation that has followed the machine to date, Nintendo's achievements will truly only be open to judgement at the Electronic Entertainment Expo show in May, when the N64 and its software becomes available for comprehensive hands-on testing. Only then will it be clear whether it will go down as another failure in Nintendo's endeavours, or its magnum opus.

It seems to me that if Nintendo really wants to create the true family consumer product, it has to adapt a different marketing strategy in the USA and Europe from its equivalent in Japan.

The Japanese launch strategy appears to be going for the 'cutesy' look of classic children's games aimed at the toy market. In Japan this will immediately get children interested and seeing as Japanese adults like to keep their childhood roots while still being intellectual about things (manga, anime, etc are good examples of this adult taste coupled with childish appeal), then in Japan the strategy will work and Nintendo may well achieve its ambitious goal of selling three million units. In Europe and the USA its plans may need to be rewritten slightly.

European consumers seem to be a much more conservative group of people and the success of the PlayStation has shown this. Sony has aimed its product at an older target group and this has encouraged adults that may not have been into videogames previously to buy into the market with a powerful new entrant. The reason many adults in Europe do not play videogames is simply because they still regard them as toys and not a serious entertainment medium. The advent of the next generation of machines has brought a higher price tag and consequently an older target group with more money.

If Nintendo thinks it can get away with selling a $250 machine with as expensive games as it plans, to kids in Europe, then it is in a for a big disappointment. Most working or middle class kids (11 to 13 year olds) that do play videogames won't be able to afford a price tag that high.

Aiming at a slightly older audience attracts most youngsters too, as it makes them feel as if they are being more mature going for a product that is aimed at an audience they look up to.

So, Nintendo, aim at the late-teens to early-20s consumer, as your opponents have, and you will attract the whole spectrum of consumers that you hope for. Aim at the toy market and the profit margin you receive will be less than ideal.

Neil Amon, Merton Park, London



Nintendo doesn't see itself as a consumer electronics manufacturer in the vein of Sony, merely a videogames company – albeit the largest one in the world. And it appears content to continue servicing the perceived wonts and needs of a marketplace with which it has enjoyed such immense success with the NES, Game Boy and SNES. But its own-branded software, headed up with figures such as Mario, Luigi and Kirby, is being joined by third-party wares which demonstrate a distinctly anti-cute approach: the N64 version of *Doom* has the potential to be one of the most realistically violent videogames of all time, while Midway's imminent conversion of its beat 'em up coin-op *War Gods* and Rare's *Killer Instinct* (in whatever form it takes) look set to start the *Mortal Kombat* backlash in motion all over again.

As you correctly note, however, despite Nintendo appearing to have all bases covered with its proposed range of N64 software, it is placing less importance on tapping into the consciousness of the twentysomethings reached by Sony's and Sega's 32bit campaigns. But who is to say that now Sony and Sega have got this mature sector involved with videogaming, these people won't take notice of Nintendo's machine when it appears? Sony's tactics have been seen as doing the whole of videogaming a favour, and Nintendo is just one company that stands to benefit from it.

I feel Nintendo has been much-maligned of late, with articles and letters throughout the media both sceptical and suspicious of the company. Whether it is doubt over its strategy – and apparent sloth to move with the next wave – or outright intimidation at its 'restrictive practices', all the voices I come across are negative.

This has to be deeper than sour grapes from a few PlayStation owners – who should be well satisfied with a machine of some merit which has been widely available for over a year.

They key word here is 'vision'. It is my view that Nintendo has been justifiably cautious with the next generation. 3D fundamentally affects the conception of games – historically games had no option but to be third-person, sprite-based 2D, forcing the development of character and the dynamics of interaction in whatever 'narratives' were made available. First person is not automatically better. Eventually, people will



The N64 will play host to a number of third-party titles, such as *Doom*, which contain a high level of violence. This suggests Nintendo is already moving away from the 'cutesy' approach personified by Mario (top)

Continued next page

viewpoint

Continued

realise *Doom* is essentially an empty experience as was *3D Monster Maze* (ZX81), or *Ultima 1* (PC). Technology is not a magic word.

From what I've seen, Nintendo has only been taking due care over what is an entirely new genre. Just as movies were a reinvention of theatre during the awkward early period of silent cinema, 3D is the same.

As a programmer in no way connected with Nintendo, I appreciate the wisdom in all parts of its vision. Name one other console sage enough to include an analogue input. Explain exactly why the comparative restrictions of cartridge versus CD should do anything other than promote innovation in the same way that games have been innovative thus far. Come on and bore me to death about the hitherto unrealised 'great potential' of full motion video and how the Nintendo 64 is crippled by not having 600Mb of storage.

I say CD consoles are crippled by *having* that amount of storage. You can fit the entire etymology of every word in the centuries-evolved English language on a single disc, and you intend someone to create as much value in scene data with videogames rushed into production over a matter of months?

Square Soft is silly to abandon this platform - if it wanted loads of prerendered art for its Nintendo 64 RPGs I agree it won't find it in a cartridge or the 64DD, but the Nintendo 64 is powerful enough to realtime render, and its magneto-optical discs are writeable so the current and next level could be cached by leaving the console on after a game. The more that is 3D, the more that can transform, or incorporate real-world physics. I really feel that this aspect has been seriously undervalued - games could hold persistent simulations, or be left to calculate wargame phases overnight.

Cartridges are not too small for 3D, they are somewhat of a restrictive practice in that they give Nintendo a stronger control over product, but that's in the customers' best interest as it's in this way quality is controlled.

N Harris,
Faversham, Kent

To call *Doom* 'essentially an empty experience' is hardly fair but, in the light of the myriad feeble, misguided attempts at 3D software seen since the dawn of 32bit console gaming, some of your observations are valid.

Transferring game design values from two to three dimensions is one of the biggest problems faced by developers at the moment, with many opting merely to clone established 3D concepts such as *Doom*, any flight simulator, and even themes stretching as far back as Atari's tank combat classic, *Battlezone*. Those brave enough to try something new are experiencing mixed results: Sony's *Jumping Flash*, despite its longevity failings, is one example of how new-style 3D games *can* work, while *Missile Command 3D* falls down *because* of its efforts to do something different. Look out for a future issue of **Edge** which will address this area in detail.

The large capacity of CDs should never hamper game development, yet in *every* advance in home gaming, memory capacity is abused in its infancy: it was evident when gaming moved from 8bit to 16bit, and currently remains a sufferance of every CD gamer. Ultimately it is not a question of how much storage space is available but one of there always being good quality games and poor quality games, regardless of whether they arrive on 8Mbit cartridge, 650Mb CD or 64Mb 64DD disk.

Your point concerning Nintendo's quality control policy is rather misguided. The 'Official Nintendo Seal of Quality' has been a bone of contention with Nintendo gamers for a long time. The packaging definition claims that its appearance is 'your assurance that Nintendo has reviewed this product and that it has met our standards for excellence in workmanship, reliability and entertainment value' - hardly something that accurately applies to a vast number of dismal cartridges to reach the shelves.

Nintendo's current efforts to control the quality of external N64 game development are to be heartily applauded, but how long will it be before we see them relaxed?

What's all this fuss over PC graphic accelerator cards? You need a £1,500 to £2,000 125MHz machine just to play fast 'arcade' games such as *Rave Racer*, *Virtua Fighter*, etc.

Get real, PC owners, if you want to play the aforementioned games, invest in a console. Compare the PlayStation version of *Wipeout* to its tragic PC counterpart, the same with *Doom*. Try getting *Sega Rally* onto a PC. Did somebody shout '*Screamer*'? Don't make me laugh!

Sure, the PC has its uses - business, CD-ROMs and, oh yes, a useful way for anonymous perverts to trawl the internet for pornographic material.

The bottom line: you could get both a Saturn and PlayStation plus a 33-inch Dolby Prologic TV for about the same price as a half-decent PC. There is no comparison between this and viewing a game on a pathetic 14-inch monitor.

P Patel,
Dudley, West Midlands



'The bottom line: you could get both a Saturn and PlayStation plus a Dolby Prologic TV for about the same price as a half-decent PC.' P Patel questions the attention given to PC graphic accelerator cards



Space is at a premium, but Jon Ashley would like to see more dross featured in Edge

The PC games market is the largest in the world and it's only going to expand as its technology matures – and becomes more affordable in the process – hence the attention given to system upgrades such as graphic accelerator cards. New chipsets such as VideoLogic's PowerVR boost PC performance beyond that of existing 32bit consoles and it may not be long before PCs shrug off their uncomfortable image – the interest from industry giants such as Namco and Sega is certainly helping.

There always has and always will be room for computers in videogaming. To write off PCs in the fashion you have is blinkered, to say the least.

Judging by your last three issues (E28 to E30) you are relishing in your own hype and the view that you are holier than thou.

I am lucky enough to own a PlayStation and 3DO, both being excellent machines in their own right. But recently **Edge** has tried its hardest to sink the 3DO without a trace, claiming no software worthy of a review within your hallowed pages. Well, I beg to differ. *PGA 96*, *Captain Quazar*, *Battlesport*, *Striker 96*? Were these not of high-enough quality? At the same time, though, you are willing to review substandard PlayStation games.

So what's the problem? Surely Sony hasn't bought you off, too? I think you should reconsider your claim that you are a multi-format magazine as this could contradict the Trade Descriptions Act!

Even in your last 3DO review, namely *Foes of Ali* (E30), you couldn't wait to sink in your teeth. I'm not saying the game didn't have flaws, as it did. Even compared against *Boxer's Road* on the PlayStation you kept mauling and savaging. I may be too simplistic for you but I have played both of these games and *Foes of Ali* wins by three rounds.

And now I understand there will be an increase on your cover price. Could it be the amount of revenue brought in by the pages and pages of adverts is not enough? I wonder whether it is in your plans to have a selected readership only? Wake up **Edge** and look around you. Magazines like *X-Gen* remind me of how you used to be. Unless you review your own tactics, **Edge** will be another has-been to join the big publisher in the sky.

Jon Ashley,
Locks Heath, Southampton

What, like *X-Gen*, you mean?

Selecting games for inclusion in testscreen each month is not an easy task. For every 3DO owner **Edge** pisses off there will be a Saturn owner and a PC owner feeling that their machine isn't getting enough coverage – there's perhaps never been a truer case of not being able to please all of the people all of the time than in producing a magazine which caters for multiple formats.

The truth is that there *hasn't* been a 3DO release worthy of **Edge**'s attention in recent months – *Battlesport* and *Captain Quazar* are both very lacking titles, while *PGA 96* and *Striker 96* are merely old games given a lick of new paint – and hardly a groundbreaking one at that. Rest assured, when games worthy of our attention turn up, **Edge** will cover them in full – space permitting.

In answer to your final paragraph, no cover price rise is planned.

Nextmonth

Continued Edge 34

Next month, **Edge** enters the mighty expanses of the PC market and investigates how global PC industry behemoth, Microsoft, is changing the technology that, for so long, has kept the machine firmly in the domain of strategy and sim heads. In a one-on-one interview with all-conquering nerd-done-good Bill Gates, **Edge** asks if Microsoft really thinks the PC will ever have the ammunition to take on dedicated videogame consoles.

Plus, **Edge** investigates the world of game controllers, an oft-neglected but essential component of videogaming. While two decades of two-dimensional videogames necessitated few genuine changes in the design of joypad and joystick ergonomics, the realtime handling of 3D worlds has rewritten the rulebook. Nintendo, with its potentially revolutionary N64 joypad, is the first company to attempt to break the mould.



Image: *Into The Shadows* © Scavenger 1996

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